

the College of WILLIAM & MARY



Announcements for the two hundred and ninety-sixth year

GENERAL STATEMENT OF POLICY

Bulletin of The College of William and Mary—Undergraduate Catalog Issue
Vol. 82, No. 8 August, 1988

Within the limits of its facilities and its obligations as a state university, the College of William and Mary opens the possibility of admission to all qualified students without regard to sex, race, color, age, religion, national origin or handicap; the facilities and services of the College are open to all enrolled students on the same basis, and all standards and policies of the institution, including those governing employment, are applied accordingly.

Note: The catalog provides announcements for the 1988-1989 academic year. It is current until August 1989. The College reserves the right to make changes in the regulations, charges, and curricula listed herein at any time.

Catalogs are issued for other college programs as follows:

School of Business Administration
School of Education
Graduate Studies in Arts and Sciences
Marine Science
Marshall-Wythe School of Law
Summer Sessions

Senior citizens of Virginia who wish to take advantage of fee waiver privileges for attending courses of William and Mary are invited to contact the Office of Admission for full details.

Cover Photo: Dan Dry



The College of WILLIAM AND MARY in Virginia

THE UNDERGRADUATE CATALOG

**ANNOUNCEMENTS FOR THE
TWO HUNDRED AND NINETY-SIXTH YEAR**

**WILLIAMSBURG, VIRGINIA 23187
(804) 253-4000
1988-1989**

CORRESPONDENCE DIRECTORY

To facilitate prompt attention, inquiries should be directed to the following at The College of William and Mary, Williamsburg, Virginia 23187.

ACADEMIC AFFAIRS

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ADMISSION

G. Gary Ripple, *Dean of Admission*

AFFIRMATIVE ACTION PROGRAMS

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Edward T. Allenby

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Lawrence Ring, *Associate Dean for Academic Affairs, Business Administration*

Virginia K. Laycock, *Associate Dean of School of Education*

Timothy J. Sullivan, *Dean of Marshall-Wythe School of Law*

Frank O. Perkins, *Dean of School of Marine Science*

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STUDENT LIFE

W. Samuel Sadler, *Dean of Student Affairs*

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COLLEGE CALENDAR

1988-89

1988

First Semester

August 27-31	Orientation Period (Saturday-Wednesday)
August 31	Registration of entering Freshmen and other New Students (Wednesday)
September 1	Beginning of Classes: 8 a.m. (Thursday)
September 12	Registration: Last Day for Dropping classes: 5 p.m. (Monday)
September 14	Registration: Last Day for adding classes: 5 p.m. (Wednesday)
September 30-	
October 1	Parents Weekend (Friday-Saturday)
October 17-18	Fall Break (Monday-Tuesday)
November 5	Homecoming (Saturday)
November 23-25	Beginning of Thanksgiving Holiday: 1 p.m. (Wednesday)
November 28	End of Thanksgiving Holiday: 8 a.m. (Monday)
December 9	End of Classes: 5 p.m. (Friday)
December 10-11	Reading Period (Saturday-Monday)
December 12-16	Examinations (Monday-Friday)
December 17-18	Reading Period (Saturday-Sunday)
December 19-21	Examinations (Monday-Wednesday)

1989

Second Semester

January 10	Registration of New Students (Tuesday)
January 11	Beginning of Classes: 8 a.m. (Wednesday)
January 20	Registration: Last Day for Dropping Classes: 5 p.m. (Friday)
January 24	Registration: Last Day for adding classes: 5 p.m. (Tuesday)
February 11	Charter Day (Saturday)
March 3	Beginning of Spring Vacation: 5 p.m. (Friday)
March 13	End of Spring Vacation: 8 a.m. (Monday)
April 24	End of classes: 5 p.m. (Monday)
April 25-27	Reading Period (Tuesday-Thursday)
April 28	Examinations (Friday)
April 29-30	Reading Period (Saturday-Sunday)
May 1-5	Examinations (Monday-Friday)
May 6-7	Reading Period (Saturday-Sunday)
May 8-9	Examinations (Monday-Tuesday)
May 14	Commencement Day (Sunday)

1989

Summer Sessions

May 29	Beginning of First Term (Monday)
June 30	End of First Term (Friday)
July 3	Beginning of Second Term (Monday)
August 4	End of Second Term (Friday)

I. THE COLLEGE

STATEMENT OF PURPOSE

The College of William and Mary, chartered in 1693, is a public university supported by the Commonwealth of Virginia and supervised by a Board of Visitors appointed by the Governor. The College serves the Commonwealth and the nation by its dedication to excellence in education. It is distinctive in associating, in an institution of moderate size, the diversity of a university offering graduate and professional programs with the commitment to liberal education of an undergraduate college of arts and sciences.

1

An institution of liberal education embodies a program of learning and at the same time provides an appropriate setting: a community in which learning takes place. The undergraduate program in arts and sciences, as a curriculum and a community, is central to the aims of liberal education at William and Mary.

The curriculum makes accessible to students both the substance of existing knowledge and the contemporary disciplines of thought and investigation by which knowledge is acquired. The division of the university into schools and departments embodying these disciplines constitutes the formal organization of the curriculum. More fundamentally, the curriculum seeks to develop those abilities that characterize a liberally educated mind: literacy, a command of language and sound argumentation in speech and writing; mathematical and scientific methodology; understanding of foreign languages and cultures; knowledge of the historical roots of our contemporary world; appreciation of the creative arts as an ordering and expression of human perceptions; and the ability to recognize and examine the values which infuse thought and action. An athletic program emphasizing the development of each student's physical skills and sense of sportsmanship complements a program of liberal education.

Liberal education requires not only a curriculum but also a community in which students and faculty practice together the disciplines of learning. This participation makes possible the discovery, exchange, and examination of ideas that are fundamental to an intellectual community. The life of the community depends upon all of its elements: a faculty actively engaged in scholarly, scientific, and artistic creativity and dedicated to dialogue with students; a selected, full-time, largely residential student body prepared by ability, training, and personal initiative to participate in the community, and fully representing the diversity of society; a residential environment designed to provide and protect the conditions of living necessary for an intellectual community; essential resources of learning, such as libraries, laboratories, studios, and computers; and an administration which maintains and safeguards the environment and resources and which represents the university to the Commonwealth and nation which it serves. Research, a fundamental activity of the community, is intrinsically valuable in producing new knowledge, essential to the intellectual vitality of the faculty, and integral to the student's program. Participation in the community results in the special mastery of a single discipline and in a breadth of view that comprehends what each discipline means to the others.

As a curriculum and as a community in this sense, the undergraduate program fosters the aim of liberal education: the development of that critical and creative intelligence through which men and women realize their human potentialities and serve the ends of society through productive work in a world of change.

2

Graduate and professional study provides the rigorous preparation essential to skill and achievement in the academic disciplines and in business administration, education, law, and marine science.

PRESIDENTS

The graduate and professional programs have evolved during the twentieth century to fulfill the educational needs of an increasingly complex society. The program in education became an important mission of the College when the Commonwealth assumed for its public financial support in 1906; today the School of Education's undergraduate programs are complemented by graduate studies offering both master's and doctoral degrees. The Marshall-Wythe School of Law, which originated in the Revolutionary era, offers the Juris Doctor degree and the Master of Law in Taxation. The School of Business Administration evolved from a program in business established in 1919 and now offers both undergraduate and master's degrees. The College's concern for the marine interests of the Commonwealth for almost half a century is expressed through the research facilities as well as the master's and doctoral programs of the School of Marine Science. Where educational needs of the Commonwealth and institutional strengths coincide, the College has undertaken graduate programs in the arts and sciences; these now include doctorates in computer science, history, physics, and psychology, as well as master's degrees in twelve fields.

3

The College values the benefits which derive from the association of teaching and research, undergraduate and graduate programs, and liberal and professional education, in a compact university community. Academic specializations and professional skills are best developed within a community of liberal learning; and conversely, undergraduate liberal education benefits from the presence of advanced specialized, and professional studies.

The service of the College extends beyond its degree programs and the perimeters of its campus. The College's advanced research institutes further enrich its community of learning and provide the Commonwealth with the cultural and economic benefits of their research. In sponsored programs, conferences, and non-credit course offerings, William and Mary serves the needs of the wider public.

The development and change of the past ten years, both at William and Mary and in the world, leave unaltered the College's commitment to excellence in all of its programs. To perpetuate that mission, the College now reaffirms its fundamental educational values and seeks to develop further a community in which such values will flourish.

PRESIDENTS OF THE COLLEGE

JAMES BLAIR, 1693-1743
WILLIAM DAWSON, 1743-1752
WILLIAM STITH, 1752-1755
THOMAS DAWSON, 1755-1760
WILLIAM YATES, 1761-1764
JAMES HORROCKS, 1764-1771
JOHN CAMM, 1771-1777
JAMES MADISON, 1777-1812
JOHN BRACKEN, 1812-1814
JOHN AUGUSTINE SMITH, 1814-1826
WILLIAM H. WILMER, 1826-1827
ADAM EMPIE, 1827-1836
THOMAS RODERICK DEW, 1836-1846

ROBERT SAUNDERS, 1847-1848
BENJAMIN S. EWELL, 1848-1849
JOHN JOHNS, 1849-1854
BENJAMIN S. EWELL, 1854-1888
LYON G. TYLER, 1888-1919
JULIAN A. C. CHANDLER, 1919-1934
JOHN STEWART BRYAN, 1934-1942
JOHN EDWIN POMFRET, 1942-1951
ALVIN DUKE CHANDLER, 1951-1960
DAVIS YOUNG PASCHALL, 1960-1971
THOMAS ASHLEY GRAVES, JR., 1971-1985
PAUL R. VERKUIL, 1985-

CHANCELLORS OF THE COLLEGE

HENRY COMPTON, *Bishop of London, 1693-1700*
THOMAS TENISON, *Archbishop of Canterbury, 1700-1707*
HENRY COMPTON, *Bishop of London, 1707-1713*
JOHN ROBINSON, *Bishop of London, 1714-1721*
WILLIAM WAKE, *Archbishop of Canterbury, 1721-1729*
EDMUND GIBSON, *Bishop of London, 1729-1736*
WILLIAM WAKE, *Archbishop of Canterbury, 1736-1737*
EDMUND GIBSON, *Bishop of London, 1737-1748*
THOMAS SHERLOCK, *Bishop of London, 1749-1761*
THOMAS HAYTER, *Bishop of London, 1762*
CHARLES WYNDHAM, *Earl of Egremont, 1762-1763*
PHILIP YORKE, *Earl of Harwicke, 1764*
RICHARD TERRICK, *Bishop of London, 1764-1776*
GEORGE WASHINGTON, *First President of the United States, 1788-1799*
JOHN TYLER, *Tenth President of the United States, 1859-1862*
HUGH BLAIR GRIGSBY, *Historian, 1871-1881*
JOHN STEWART BRYAN, *Twentieth President of the College of William and Mary, 1942-1944*
COLGATE W. DARDEN, JR., *Governor of Virginia, 1946-1947*
ALVIN DUKE CHANDLER, *Twenty-second President of the College of William and Mary, 1962-1974*
WARREN E. BURGER, *Sixteenth Chief Justice of the United States, 1986-*

HONORARY FELLOW OF THE COLLEGE

His Royal Highness, THE PRINCE OF WALES, 1981

BOARD OF VISITORS

HAYS T. WATKINS, LL.D. '82	RECTOR
HENRY T. TUCKER, JR. '72	VICE RECTOR
JAMES E. UKROP '60	SECRETARY

Term expires March 6, 1989

STEWART H. GAMAGE '72	ALEXANDRIA, VA
A. LINWOOD HOLTON, LL.D. '72	McLEAN, VA
HENRY T. TUCKER, JR. '72	RICHMOND, VA
JAMES E. UKROP '60	RICHMOND, VA

Term expires March 6, 1990

JAMES W. BRINKLEY '59	TOWSON, MD
RICHARD J. DAVIS '42	PORTSMOUTH, VA
PAMELA C. HARRIMAN	MIDDLEBURY, VA
CARLISLE H. HUMELSINE LL.D. '63	WILLIAMSBURG, VA

Term Expires March 6, 1991

EDWARD J. CAMPBELL	NEWPORT NEWS, VA
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Committee on Financial Affairs: Henry T. Tucker, Jr., Chair; Garner N. Anthony; James W. Brinkley; Edward J. Campbell; Richard J. Davis; Lewis L. Glucksman; Pamela C. Harriman; Joseph R. Koons.

Committee on Buildings and Grounds: James W. McGlothlin, Chair; Sharon A. Coles-Stewart; Stewart H. Gamage; Audrey M. Harris; A. Linwood Holton; Carlisle H. Humelsine; John H. Tucker, Jr; James E. Ukrop.

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Committee on Academic Affairs: Stewart H. Gamage, Chair; Garner N. Anthony; Richard J. Davis; Pamela C. Harriman; A. Linwood Holton; Carlisle H. Humelsine.

Committee on Student Affairs: John H. Tucker, Chair; James W. Brinkley; Sharon A. Coles-Stewart; Audrey M. Harris; Joseph R. Koons; James E. Ukrop.

Committee on Athletic Policy: Joseph R. Koons, Chair; Garner N. Anthony; Sharon A. Coles-Stewart; Richard J. Davis; Stewart H. Gamage; A. Linwood Holton; John H. Tucker, Jr.; James E. Ukrop.

Committee on Audit: Henry T. Tucker, Jr., Chair; James W. Brinkley; Edward J. Campbell; Lewis L. Glucksman; James W. McGlothlin.

DIRECTORY OF ADMINISTRATIVE OFFICES

Office of the President

Paul R. Verkuil	<i>President</i>
Reginald A. Clark	<i>Assistant to the President for Community and Campus Relations</i>
James S. Kelly	<i>Assistant to the President and Secretary to the Board of Visitors</i>

Office of the Provost

Melvyn D. Schiavelli	<i>Provost</i>
Kathleen F. Slevin	<i>Associate Provost for Academic Affairs</i>
David E. Kranbuehl	<i>Associate Provost for Research</i>
Eric O. Ayisi	<i>Assistant to the Provost for Off-Campus Program Development</i>
Mark M. Johnson	<i>Director, Joseph and Margaret Muscarelle Museum of Art</i>
Dale B. Robinson	<i>Director, Equal Opportunity and Affirmative Action</i>

Office of the Vice Provost

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Henry C. Johnson	<i>Director for College Computing</i>

Faculty of Arts and Sciences

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Thomas M. Finn	<i>Acting Dean, Undergraduate Studies</i>
Robert J. Scholnick	<i>Dean, Graduate Studies</i>

School of Business Administration

John C. Jamison	<i>Dean</i>
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Lawrence J. Ring	<i>Associate Dean for Academic Affairs</i>

School of Education

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Virginia K. Laycock	<i>Associate Dean</i>

Marshall-Wythe School of Law

Timothy J. Sullivan	<i>Dean</i>
Richard A. Williamson	<i>Vice-Dean</i>
Connie O. Galloway	<i>Associate Dean for Administration</i>
Fay F. Shealy	<i>Associate Dean for Admissions</i>

School of Marine Science

Frank O. Perkins	<i>Dean</i>
Paul V. Koehly	<i>Associate Director</i>
Robert J. Byrne	<i>Associate Dean</i>
Maurice P. Lynch	<i>Associate Dean</i>

Reves Center for International Studies

James A. Bill	<i>Director</i>
Carolyn B. Carson	<i>Director, International Programs</i>

DIRECTORY OF ADMINISTRATIVE OFFICES

Office of Student Affairs

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Stanley E. Brown
Jay L. Chambers
Pamela L. Ewouds
Fred Fotis
Robert P. Hunt
Amy L. Jarmon
Juliette S. Karow
Robert Knowlton
Carole S. Mirick

Dean of Student Affairs
Associate Dean, Student Affairs
Associate Dean, Student Affairs
Director, Career Services
Director, Center for Psychological Services
Associate Director, Career Services
Director, Residence Life
Associate Director, Placement
Director, Academic Support Services
Director, Student Health Services
Director, Campus Center
Director, Study Skills

Office of Student Financial Aid

Edward P. Irish
Lisa Turner

Director
Associate Director

Office of Admission

G. Gary Ripple
Virginia A. Carey
Wendy J. Baker
Alison Jesse

Dean
Associate Dean
Assistant Dean
Assistant Dean

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Nell R. Jones
Sharon L. Reed

Registrar
Associate Registrar
Associate Registrar

Earl Gregg Swem Library

Nancy H. Marshall
John D. Haskell, Jr.
Paa-Bekoe Henry Welbeck

University Librarian
Associate Librarian
Director, Educational Media Services

Office of Administration and Finance

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Carson H. Barnes, Jr.
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Charles J. Lombardo
Eddie Moore

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Director, Special Programs
Director of Administrative Services
Director of Campus Police
Treasurer
Director of the Budget
Manager, College Bookstore
Director of Operations
University Comptroller

Office for University Advancement

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Barrett H. Carson
Robert S. Dutro
Elizabeth W. Paschall
Anne M. Pratt
Fredric W. Slight
Lee G. Walsh

Vice President
Director, Development
Director, Estate Planning
Associate Director, Annual Support
Director, Foundation Relations
Director, Corporate Relations
Director, Capital Support

Office of University Relations

William N. Walker
S. Dean Olson

Director, University Communications
University Editor and Director of Publications

Office of Intercollegiate Athletics

John Randolph
Millie B. West

Director, Athletics
Associate Director, Athletics

Officers of Instruction¹

- PAUL R. VERKUIL, *President of the College and Professor of Law and Government*, A.B., College of William and Mary; LL.B., University of Virginia; LL.M., New York University; M.A., New School for Social Research; J.S.D., New York University.
- MELVYN D. SCHIAVELLI, *Provost of the College and Professor of Chemistry*, B.A., DePaul University; Ph.D., University of California, Berkeley.
- CHARLES HARPER ANDERSON (1946), *Lecturer in Law, Emeritus*, A.B. and B.C.L., College of William and Mary; LL.M., University of Virginia.
- JAY D. ANDREWS (1946), *Professor of Marine Science, Emeritus*, B.S., Kansas State College; M.A. and Ph.D., University of Wisconsin.
- ALFRED R. ARMSTRONG (1933), *Professor of Chemistry, Emeritus*, B.S., and M.A., College of William and Mary; Ph.D., University of Virginia.
- ELIZABETH E. BACKHAUS (1966), *Associate Professor of Modern Languages and Literatures, Emerita*, A.B., M.A. and Ph.D., University of Connecticut.
- CAROL E. BALLINGALL (1965), *Professor of Anthropology, Emerita*, A.B., Wayne State University; M.A., University of Chicago.
- J. WORTH BANNER (1949), *Professor of Modern Languages, Emeritus*, B.S., Roanoke College; M.A. and Ph.D., University of North Carolina.
- R. CARLYLE BEYER (1965), *Professor of History, Emeritus*, A.B., Hamline University; A.B. and M.A., Oxford University; Ph.D., University of Minnesota.
- RICHARD B. BROOKS (1947), *Professor of Education, Emeritus*, B.P.E., Springfield College; M.A., University of Pennsylvania; Ed.D., University of Virginia.
- MARION M. BROWN (1966), *Associate Professor of Theatre and Speech, Emerita*, A.B. and M.A., University of California.
- EMILY ELEANOR CALKINS (1927), *Lecturer in Mathematics, Emerita*, A.B., College of William and Mary; M.A., University of Michigan.
- BENJAMIN RALPH CATO, JR. (1955), *Professor of Mathematics, Emeritus*, A.B. and M.A., Duke University.
- ROYCE W. CHESSER (1962), *Professor of Education, Emeritus*, A.B., Wake Forest University, M.Ed., College of William and Mary.
- MARION DALE CORNISH (1943), *Professor of Physical Education for Women, Emerita*, B.S. and M.S., University of Illinois.
- GEORGE W. CRAWFORD (1960), *Professor of Physics, Emeritus*, B.S., Davidson College; M.S., University of North Carolina; Ph.D., Ohio State University.
- CARL R. DOLMETSCH (1959), *Professor of English, Emeritus*, A.B. and M.A., Drake University; Ph.D., University of Chicago.
- FRANK BROOKE EVANS, III (1947), *Professor of English, Emeritus*, A.B., Amherst College; M.A. and Ph.D., Princeton University.
- CARL A. FEHR (1945), *Chancellor Professor of Music, Emeritus*, A.B. and M.A., University of Texas; M. Mus., University of Michigan; Ed.D., Columbia University.
- LEWIS A. FOSTER, JR. (1955), *Professor of Philosophy, Emeritus*, A.B. and M.A., University of Virginia; Ph.D., University of Udaipur.
- ALVIN Z. FREEMAN (1967), *Professor of History, B.S., Emeritus*, Virginia Military Institute; M.A. Brown University; Ph.D., University of Toronto.
- MARGARET L. HAMILTON (1953), *Professor of Government, Emerita*, A.B., University of Michigan; M.A. and Ph.D., Columbia University.
- DEXTER S. HAVEN (1949), *Professor of Marine Science, Emeritus*, B.S. and M.S., Rhode Island State College.
- GEORGE R. HEALY (1971), *Professor of History, Emeritus*, B.A., Oberlin College; M.A. and Ph.D., University of Minnesota.

¹This list reflects the status of members of the faculty as of 1 June 1988. The date indicates year of arrival at the College of William and Mary.

OFFICERS OF INSTRUCTION

- DONALD J. HERRMANN (1951), *Professor of Education, Emeritus, B.Ed.*, Northern Illinois University; M.A. and Ph.D., Michigan State University.
- E. LEWIS HOFFMAN (1947), *Professor of Modern Languages, Emeritus, B.S.*, Roanoke College; M.A. and Ph.D., George Washington University.
- H. LESTER HOOKER, JR. (1963), *Associate Professor of Physical Education, Emeritus, A.B. and M.Ed.*, College of William and Mary.
- DUDLEY M. JENSEN (1951), *Professor of Physical Education, Emeritus, B.S.* Springfield College, M.A., Teachers College, Columbia University.
- W. MELVILLE JONES (1928), *Chancellor Professor of English, Emeritus, A.B.*, Allegheny College; M.A., Ohio State University; Ph.D., Harvard University; Litt. D., Allegheny College.
- ALEXANDER KALLOS (1949), *Professor of Modern Languages and Literatures, Emeritus, M.A.*, and Ph.D., University of Pennsylvania.
- EDWARD KATZ (1947), *Instructor in Chemistry, Emeritus, B.S.*, College of William and Mary.
- R. WAYNE KERNODLE (1945), *Professor of Sociology, Emeritus, A.B., M.A.*, and Ph.D., University of North Carolina.
- ALEXANDER I. KURTZ (1962), *Associate Professor of Modern Languages, Emeritus, Licentiate and M.A.*, Leopold-Francis University, Innsbruck, Austria; M.A. Rutgers University; Th.D., Leopold-Francis University.
- MONT M. LINKENAUER (1960), *Professor of Physical Education, Emeritus, B.S. and M. Ed.*, College of William and Mary; R.P.T., Medical College of Virginia.
- FRANK A. MACDONALD (1955), *Professor of Philosophy, Emeritus, A.B. and M.A.*, College of William and Mary; M.A. Harvard University.
- J. LUKE MARTEL (1963), *Professor of Modern Languages and Literatures, Emeritus, A.B.*, University of Arizona; License en Lettres, Université de Montpellier; Doctorat Université d'Aix-Marseille.
- CARL W. MCCARTHA (1955), *Professor of Education, Emeritus, A.B.*, Newberry College; M.A., University of North Carolina; Ed.D., University of Florida.
- BEN CLYDE MCCARY (1930), *Professor of Modern Languages, Emeritus, A.B.*, University of Richmond; Docteur de l'Université de Toulouse.
- BRUCE T. MCCULLY (1940), *Professor of History, Emeritus, A.B.*, Rutgers University; M.A. and Ph.D., Columbia University.
- JOHN A. MOORE (1950), *Professor of Modern Languages and Literatures, Emeritus, B.S.*, Davidson College; M.A. and Ph.D., University of North Carolina, Chapel Hill.
- WILLIAM WARNER MOSS, JR. (1937), *John Marshall Professor of Government and Citizenship, Emeritus, A.B.*, University of Richmond; M.A., and Ph.D., Columbia University.
- FRASER NEIMAN (1938), *Professor of English, Emeritus, A.B.*, Amherst College; M.A. and Ph.D., Harvard University.
- FRANCES H. NELSON (1968), *Assistant Professor of Education, Emerita, A.B.*, Winthrop College; M.Ed., College of William and Mary.
- RICHARD K. NEWMAN, JR. (1946), *Professor of Fine Arts, Emeritus, A.B.*, Dartmouth College; Yale University.
- PIERRE C. OUSTINOFF (1953), *Professor of Modern Languages and Literatures, Emeritus, A.B.*, M.A. and Ph.D., Columbia University.
- DAVIS Y. PASCHALL (1960), *President of the College, Emeritus, A.B., M.A.*, College of William and Mary; Ed.D., University of Virginia.
- ARTHUR WARREN PHELPS (1945), *Professor of Law, Emeritus, A.B.*, Washington and Lee University; M.A., Ohio State University; J.D., University of Cincinnati; LL.M., Columbia University.
- BOLLING RAINES POWELL, JR. (1969), *Professor of Law, Emeritus, A.B.*, Birmingham Southern College; M.A. and LL.B., University of Virginia.
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- SANDRA JOAN PEART (1988), *Instructor in Economics*, B.A. and M.A., University of Toronto.
- CHARLES F. PERDRISAT (1966), *Professor of Physics*, B.S., University of Geneva; D.Sc., Federal Institute of Technology, Zurich.
- FRANK O. PERKINS (1966), *Dean and Professor of Marine Science*, A.B., University of Virginia; M.S. and Ph.D., Florida State University.
- RICHARD R. PETITT, JR. (1986), *Assistant Professor of Military Science*, B.A., Loyola University; M.B.A., Oklahoma City University.
- KENNETH G. PETZINGER (1972), *Professor of Physics*, A.B., Princeton University; M.A., Columbia University; Ph.D., University of Pennsylvania.
- P. MICHAEL POLITANO (1985), *Assistant Professor of Education*, B.A., Duke University; M.S. and Ph.D., Indiana University.
- WALTER I. PRIEST, III (1977) *Instructor in Marine Science*, B.S., Virginia Military Institute; M.S., Old Dominion University.
- F. DOUGLAS PRILLAMAN (1969), *Professor of Education*, B.S., Lincoln Memorial University; M.Ed., College of William and Mary; Ed.D., George Washington University.
- RICHARD H. PROSL (1966), *Associate Professor of Computer Science*, B.S., College of William and Mary; A.B. and M.A., University College, Oxford; M.S. and Ph.D., Rensselaer Polytechnic Institute.
- LAWRENCE B. PULLEY (1985), *Associate Professor of Business Administration*, B.A., College of William and Mary; Ph.D., University of Virginia.
- THEODORE D. PUTNAM (1980), *Instructor in Chemistry*, B.S., Maryville College; M.S., Auburn University.
- LARRY RABINOWITZ (1968), *Associate Professor of Mathematics*, A.B., M.S. and Ph.D., Rutgers University.
- DON R. RAHTZ (1982), *Associate Professor of Business Administration*, B.A. and M.B.A., Northern Illinois University; Ph.D., Virginia Polytechnic Institute and State University.
- RONALD B. RAPOPORT (1975), *Associate Professor of Government*, B.A., Oberlin College; M.A. and Ph.D., University of Michigan.
- ANN M. REED (1976), *Associate Professor of English*, B.A., Swarthmore College; M.Ed., University of Pennsylvania; Ph.D., Brandeis University.
- LINDA COLLINS REILLY (1969), *Associate Professor of Classical Studies*, A.B., Vassar College; M.A. and Ph.D., Johns Hopkins University.

OFFICERS OF INSTRUCTION

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- EDWARD A. REMLER (1967), *Professor of Physics*, B.S., Massachusetts Institute of Technology; M.S., Columbia University; Ph.D., University of North Carolina, Chapel Hill.
- RAY E. REPPERT, JR. (1984), *Instructor in Physical Education*, B.A. and M.A., University of Pittsburgh.
- MARTHA W. RHODES (1984), *Instructor in Marine Science*, B.S., Virginia Polytechnic Institute and State University; M.A., Virginia Commonwealth University.
- EDWIN H. RHYNE (1954), *Professor of Sociology*, B.S., Clemson University; M.A. and Ph.D., University of North Carolina, Chapel Hill.
- GARY W. RICE (1984), *Assistant Professor of Chemistry*, B.S., James Madison University; Ph.D., Iowa State University.
- ROGER R. RIES (1968), *Professor of Education*, B.S., M.Ed. and Ph.D., University of Missouri.
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- SHIRLEY G. ROBY (1964), *Professor of Dance*, B.S., Longwood College; M.F.A., University of North Carolina, Greensboro.
- LEIBA RODMAN (1987), *Professor of Mathematics*, Diploma, Latvian State University; M.A. and Ph.D., Tel-Aviv University.
- MICHAEL J. ROHRBAUGH (1983), *Associate Professor of Psychology*, A.B., Dickinson College; M.A. and Ph.D., Kent State University.
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- RONALD R. SAINT-ONGE (1970), *Professor of Modern Languages and Literatures*, A.B., Providence College; M.A. and Ph.D., Vanderbilt University.
- JAGDISH C. SANWAL (1966), *Associate Professor of Mathematics*, B.S. and M.S., Lucknow University, India; Ph.D., Indiana University.
- JAMES B. SAVAGE (1970), *Associate Professor of English*, A.B. and Ph.D., Princeton University; M.A., Northwestern University.
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- LINDA C. SCHAFFNER (1988), *Assistant Professor of Marine Science*, B.A., Drew University; M.A. and Ph.D., College of William and Mary.
- LEONARD C. SCHIFRIN (1965), *Chancellor Professor of Economics*, A.B. and M.A., University of Texas; Ph.D., University of Michigan.
- ROBERT J. SCHOLNICK (1967), *Professor of English*, A.B., University of Pennsylvania; M.A. and Ph.D., Brandeis University.
- HARLAN E. SCHONE (1965), *Professor of Physics*, B.S., University of Illinois; Ph.D., University of California at Berkeley.

- JOEL D. SCHWARTZ (1981), *Associate Professor of Government*, B.A., M.A. and Ph.D., University of California at Berkeley.
- JOSEPH LEE SCOTT (1970), *Professor of Biology*, A.B. and M.A., University of California, Santa Barbara; Ph.D., University of California, Irvine.
- ALAMANTE SELASSIE (1987), *Assistant Professor of Law*, LL.B., Haile Selassie I University; J.D., University of Wisconsin Law School.
- JOHN E. SELBY (1963), *William E. Pullen Professor of History*, A.B., Harvard College; M.A. and Ph.D., Brown University.
- KELLY G. SHAVER (1968), *Professor of Psychology*, B.S. and M.S., University of Washington; Ph.D., Duke University.
- GLENN D. SHEAN (1966), *Professor of Psychology*, A.B., Louisiana State University, New Orleans; M.A. and Ph.D., University of Arizona.
- THOMAS F. SHEPPARD (1969), *Professor of History*, A.B., Vanderbilt University; M.A., University of Nebraska; Ph.D., Johns Hopkins University.
- CAROL W. SHERMAN (1963), *Professor of Donce*, A.B., Hollins College; M.A., Sarah Lawrence College.
- RICHARD B. SHERMAN (1960), *Chancellor Professor of History*, A.B. and Ph.D., Harvard University; M.A., University of Pennsylvania.
- DOUGLAS R. SHIER (1988), *Professor of Mathematics*, B.A., Harvard University; Ph.D., London School of Economics.
- SYLVIA SHIRLEY (1975), *Associate Professor of Physical Education*, B.A., Birmingham University, England; M.Sc., State University of New York at Cortland.
- ROBERT T. SIEGEL (1963), *Wolter F.C. Ferguson Professor of Physics*, B.S., M.S. and D.Sc., Carnegie Institute of Technology.
- MICHAEL E. SIERACKI (1985), *Assistant Professor of Marine Science*, B.A., University of Delaware; M.S. and Ph.D., University of Rhode Island.
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- CRAIG L. SMITH (1987), *Associate Professor of Marine Science*, A.B., Johns Hopkins University; Ph.D., University of Florida.
- GARY A. SMITH (1969), *Associate Professor of Modern Languages and Literatures*, A.B., University of Kansas; Ph.D., University of Texas at Austin.
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- MARGARET P. SPENCER (1988), *Associate Professor of Law*, B.A., Howard University; J.D., University of Virginia.
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- TIMOTHY J. SULLIVAN (1972), *Dean and J. S. Bryan Professor of Law*, A.B., College of William and Mary; J.D., Harvard University.
- VINSON H. SUTLIVE, JR. (1972), *Professor of Anthropology*, A.B., Asbury College; B.D., Vanderbilt School of Religion; M.A., Scarrett College; Ph.D., University of Pittsburgh.
- JAMES DANIEL TABOR (1985), *Assistant Professor of Religion*, B.A., Abilene Christian University; M.A., Pepperdine University; M.A. and Ph.D., University of Chicago.
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- JOYCE VAN TASSEL-BASKA (1987), *Jody and Loyton Smith Associate Professor of Education*, B.Ed., M.Ed., M.A., Ed.D., University of Toledo.
- DEBORAH G. VENTIS (1974), *Associate Professor of Psychology*, A.B., Washington College; M.A. and Ph.D., University of Virginia.
- W. LARRY VENTIS (1969), *Professor of Psychology*, B.S., M.A. and Ph.D., University of Tennessee.
- CARL V. VERMEULEN (1966), *Associate Professor of Biology*, A.B., Hope College; M.S. and Ph.D., University of Illinois.
- HANS C. VON BAEYER (1968), *Professor of Physics*, A.B., Columbia College; M.S., University of Miami; Ph.D., Vanderbilt University.
- HELEN CAM WALKER (1969), *Associate Professor of History*, A.B., College of William and Mary; M.A., Yale University.
- ALAN J. WARD (1967), *Professor of Government*, B.S. and Ph.D., University of London; M.A., University of Connecticut.
- STEWART A. WARE (1967), *Professor of Biology*, B.S., Millsaps College; Ph.D., Vanderbilt University.
- JUNIUS ERNEST WARINNER, III (1963), *Assistant Professor of Marine Science*, B.S. and M.A., College of William and Mary.
- WILLIAM H. WARREN (1970), *Ryan Professor of Business Administration*, B.S., University of Richmond; M.S. and Ph.D., Purdue University.
- BARBARA A. WATKINSON (1979), *Associate Professor of Fine Arts*, B.A., Stephens College; M.A. and Ph.D., University of Missouri.
- NEILL P. WATSON (1976), *Associate Professor of Psychology*, B.A., Yale University; Ph.D., Harvard University.
- NED WAXMAN (1983), *Associate Professor of Business Administration*, B.S., University of Pennsylvania; J.D., Emory University.
- KENNETH L. WEBB (1965), *Chancellor Professor of Marine Science*, A.B., Antioch College; M.S. and Ph.D., Ohio State University.
- BEVERLY A. WEEKS (1983), *Associate Professor of Marine Science*, B.A., Winthrop College; M.S., Tulane University; Ph.D., North Carolina State University.
- JAMES R. WEINBERG (1985), *Assistant Professor of Marine Science*, B.A., Miami University; M.S., University of the Pacific; M.S. and Ph.D., University of Connecticut.
- ROBERT H. WELCH (1970), *Associate Professor of Modern Languages and Literatures*, A.B., Hampden-Sydney College; M.A. and Ph.D., University of Pennsylvania.
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- WALTER P. WENSKA (1972), *Associate Professor of English*, A.B. and M.A., University of Hawaii; Ph.D., Stanford University.
- MILDRED BARRETT WEST (1959), *Professor of Physical Education*, B.S., Georgia State College for Women; M.A., University of Maryland.
- RICHARD L. WETZEL (1975), *Associate Professor of Marine Science*, B.S. and M.S., University of West Florida; Ph.D., University of Georgia.
- RONALD C. WHEELER (1972), *Associate Professor of Education*, B.S., Western Illinois University; M.Ed., University of Pittsburgh; Ph.D., University of Minnesota.
- GODWIN T. WHITE (1983), *Assistant Professor of Business Administration*, B.A. and M.B.A., College of William and Mary.
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- PETER D. WIGGINS (1971), *Professor of English*, A.B., M.A. and Ph.D., Columbia University.
- EDGAR W. WILLIAMS (1979), *Associate Professor of Music*, B.A., Duke University; M.A., Columbia University; M.F.A. and Ph.D., Princeton University.

OFFICERS OF INSTRUCTION

- JOHN A. WILLIAMS (1988), *William R. Kenan, Jr., Visiting Professor of Humanities*, B.A., University of Arkansas; M.A. and Ph.D., Princeton University.
- STUART L. WILLIAMS (1972), *Associate Professor of Business Administration*, B.A., Yale University; Ph.D., Syracuse University.
- WALTER L. WILLIAMS, JR. (1972), *Professor of Law*, A.B., M.A., LL.B., University of Southern California; LL.M., J.S.D., Yale University.
- RICHARD A. WILLIAMSON (1970), *Chancellor Professor of Law*, B.B.A., Ohio University; J.D., College of Law, Ohio State University.
- JOHN H. WILLIS, JR. (1959), *Professor of English*, A.B., University of Virginia; M.A. and Ph.D., Columbia University.
- ROLF G. WINTER (1964), *Chancellor Professor of Physics*, B.S., M.S. and D.Sc., Carnegie Institute of Technology.
- LAWRENCE L. WISEMAN (1971), *Professor of Biology*, A.B., Hiram College; M.A. and Ph.D., Princeton University.
- CALVIN WOODARD (1988), *Visiting Lee Professor of Law*, B.A., University of North Carolina; LL.B., Yale University; Ph.D., Cambridge University.
- L. DONALDSON WRIGHT (1982), *Professor of Marine Science*, B.S., University of Miami; M.A., University of Sydney; Ph.D., Louisiana State University.
- RITA P. WRIGHT (1985), *Assistant Professor of Anthropology*, B.A., Wellesley College; M.A. and Ph.D., Harvard University.
- JEAN CONOVER WYER (1978), *Professor of Business Administration*, A.B., Vassar College; M.B.A., University of North Florida; Ed.D., College of William and Mary.
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- MARTIN R. ZELDER (1988), *Instructor in Economics*, B.A., Oberlin College; M.A. and Ph.D., University of Chicago.

Earl Gregg Swem Library

Nancy H. Marshall	University Librarian
Robert Aken	Coordinator of Reference Services
Aileen Bartlett	Head of Library Management Services
Kathryn Blue	Head of Cataloging Department
Stephen Clark	Acquisitions Librarian
Margaret Cook	Curator of Manuscripts and Rare Books
James Deffenbaugh	Assistant Librarian for Collection, Development and Preservation
Kay Domine	University Archivist
John Haskell	Associate Librarian
Patricia Hausman	Physics/Geology Librarian
Berna Heyman	Assistant Librarian for Automation
Merle Kimball	Serials Librarian
J. Andrew Magpantay	Systems Manager
Bettina Manzo	Reference Librarian
Jean Peet	Serials Cataloging Librarian
Paa-Bekoe Welbeck	Director of Educational Media
Hope Yelich	Reference Librarian
Alan Zoellner	Government Documents Librarian

Health Services

Juliette S. Karow, M.D. B.A. College of Wooster M.D. University of Michigan	<i>Director of Student Health Services</i>
June S. Henderson, M.D. B.S. College of William and Mary M.D. Medical College of Virginia	<i>Staff Physician</i>
William J. Perry, M.D. B.S. University of California M.D. Duke University	<i>Staff Physician</i>
Cynthia B. Burnell B.S. Hampton Institute M.S. Pennsylvania State University	<i>Health Educator</i>
Patricia Buoncristiani, R.N., B.A.	<i>Head Nurse</i>
Linda L. Dalton, R.N.	<i>Staff Nurse</i>
Carol A. Gleason, R.N.	<i>Staff Nurse</i>
Nancy K. Hakerem, R.N.	<i>Staff Nurse</i>
Janet Pierce, R.N.	<i>Staff Nurse</i>
Amy Patton, B.A., B.S.N.	<i>Staff Nurse</i>
Mary Virginia Polonsky, R.N.	<i>Staff Nurse</i>
Lorraine Winall, R.N.	<i>Staff Nurse</i>
Philip C. Spiggle, B.S. (Pharmacy)	<i>Staff Pharmacist</i>
Orysia Stefaniw, M.T.	<i>Laboratory Specialist</i>
JoAnn Stech	<i>Medical Receptionist</i>
Lois Byrd	<i>Medical Secretary</i>
Judith Boscaro	<i>Program Support Technician</i>

Center for Psychological Services

Jay L. Chambers, Ph.D., University of Kentucky	<i>Director, Center for Psychological Services</i>
Janice A. Pattis, Ed.S., College of William and Mary	<i>Counseling Psychologist</i>

II. ADMISSION TO THE COLLEGE

Within the limits of its facilities and its obligations as a state university, the College of William and Mary opens the possibility of admission to all qualified students without regard to sex, race, color, age, religion, national origin, or handicap.

UNDERGRADUATE ADMISSION

Application forms and admission viewbooks, which contain detailed information regarding undergraduate admission, including a profile of recent entering students, may be obtained by writing to Office of Admission, College of William and Mary, Williamsburg, Virginia, 23185.

Applications for regular admission should be submitted by January 15 for the fall semester and November 15 for the spring semester. Early Decision applications to the freshman class should be submitted by November 15 of the final year in secondary school. Applications submitted after these dates will be evaluated in terms of the admission positions available at the time of application. No one will be admitted as a degree candidate later than one week prior to registration.

Since more students apply than can be accommodated, the College uses a selective process of admission. Through this process the applicant's total education record is considered in relation to other students applying in an attempt to admit those with the strongest credentials.

SECONDARY SCHOOL PREPARATION

Seeking students with a diversity of backgrounds, interests, and special abilities, and welcoming applications from all interested students, the College evaluates each application on its own merits and does not impose specific course requirements for admission. Most candidates, however, present as strong a college preparatory program as is available to them. Advanced placement, honors and accelerated courses are strongly weighted in the evaluation process.

Candidates for admission typically present the following courses:

English: Four years (literature and strong training in writing).

Mathematics: Three, often four years.

Foreign Language (Ancient or Modern): Two to four years of one foreign language.

History and Social Science: Three years.

Science (with laboratory): Two or three years.

Elective Courses: Preferably advanced mathematics, history, natural science, English, music, art, drama, and other humanities.

Candidates from Virginia high schools are encouraged to take a program leading to the Advanced Studies Diploma.

Notification to Applicants

Since all applicants are considered in relation to each other, all notification letters are sent at the same time; Early Decision letters will be mailed by the Office of Admission on December 15; regular decision letters will be mailed on April 1. Letters to spring semester applicants will be mailed December 15.

Tests of the College Entrance Examination Board

Freshman applicants are required to take the College Board Scholastic Aptitude Test. In addition, it is strongly recommended that freshman applicants take three achievement tests of the College Board; these may be a factor in the admission decision. Students who wish exemption from the college writing requirement on the basis of scores must take the English Composition Achievement Test, preferably the English Composition

Test with Essay given only in December. Students can meet the college foreign language requirement either by completing the fourth level of one foreign language in secondary school or by scoring 600 or above in the achievement test in a modern foreign language or 650 or above in Latin (this is not an admission requirement). Applicants intending to continue the foreign language begun in secondary school must take the achievement test in a foreign language. Students who have not taken the achievement test in secondary school will be required to take it during freshman orientation week at the College. The placement of entering students in foreign language courses will be made on the basis of these test scores.

Admission of Undergraduate Transfer Students

Transfer students are admitted for both the fall and the spring semesters. In order to be considered for admission, transfer applicants must be in good standing and eligible to return to their last institution of full-time attendance. Although students who have completed fifteen or more semester hours of work at an accredited institution are not normally required to take the Scholastic Aptitude Test of the College Entrance Examination Board, scores from this test are of substantial assistance in the evaluation of applications. Therefore, transfer students who have taken the Scholastic Aptitude Test should have their scores sent to the College. In addition those who have not taken the Scholastic Aptitude Test within three years from the time of application are encouraged to do so and report their scores to the College. Students who have not fulfilled the College's language requirement are required to take the reading achievement exam if they plan to continue in a language previously begun—(Students who have taken language courses in college are not required to take this exam.) The placement of students in the required language courses is determined on the basis of these test scores. Transfer students should apply by November 1 for admission to the spring term and by March 1 for admission to the fall term. Letters to fall semester applicants will be mailed by April 15.

Early Admission

The College is willing to admit as freshmen a limited number of students with outstanding records at the end of their junior year in high school. Such students are encouraged to seek diplomas from their secondary schools after completing their freshman year, and they must visit the campus for a personal interview.

Concurrent Courses

In addition to full early admission, the College allows qualified local students to take courses for college credit concurrently with their secondary school program. Initial approval for this privilege should be requested through the high school administration prior to the filing of the unclassified application which may be secured from the Office of Admission.

Admission as a Part-time Degree Student

Applicants may be eligible for admission as part-time degree students if they live in the Williamsburg area, meet the usual admission standards of the College, and can show compelling reasons why full-time status is not feasible. In determining whether part-time status is warranted, consideration will be given to the applicant's background. Normally, admission as a part-time degree student will not be granted if the applicant was a full-time student during the preceding academic year. A part-time degree student must earn a minimum of twelve hours each year (2 semesters and a summer term) from the date of enrollment and must complete all degree requirements in effect at the time of entrance as a part-time degree student and all concentration requirements in effect at the time of the declaration of concentration.

ADMISSION TO THE COLLEGE

A maximum of 20 part-time degree students will be admitted in any one year, each assigned to an advisor who will stress the importance of building a coherent program. Part-time degree students will not be eligible for residence hall accommodations unless space is available after all full-time students have been considered. Students who wish to apply for part-time degree status should specify this in requesting application forms from the Office of Admission.

Admission to Unclassified Status

A student who does not intend to pursue a degree but wishes to take courses for credit during the day session may apply for admission as an unclassified student. Students admitted to unclassified status who later wish to become candidates for an undergraduate degree must submit a petition to the Office of Admission before completing 30 semester hours, the maximum number applicable in this status. The requirement for admission is the same as for those seeking degree status. A student once admitted as a degree candidate at the College is not eligible for admission as an unclassified student. Those seeking unclassified status should specify this in requesting application forms from the Office of Admission.

Readmission

Students who are in good standing with the College but have not been in attendance in the day session for one or more semesters must submit an application for readmission and be readmitted by the Office of Admission before they are permitted to register for classes in the day session. Former students who apply before February 1 for the fall semester and before December 1 for the spring semester will be given priority consideration for available space. Students who are not in good standing with the College should refer to the section on academic standing (page 55).

Delayed Enrollment for Admitted Freshmen

Students who are offered admission to the freshman class may postpone their enrollment for one year. Admitted freshmen who choose this option must submit a form by February 1 requesting that their application be reopened for the fall semester. These students will be guaranteed space if they satisfy previous requirements made as conditions of their original admission. They must have an honorable record in the intervening year. Assurance of future admission does not apply to students who enroll in a college or university during the intervening period; in such cases, it will be necessary to consider the student as a transfer applicant.

Admission to Audit Status

Students who wish to audit courses in the day session with no credit should contact the office of the Dean of the Faculty of Arts and Sciences to obtain the appropriate forms for permission to audit.

Admission to the Summer Sessions

Applicants should write to the Office of the Registrar for a catalog and application form. Admission to a summer session does not entitle the student to admission to the regular session or degree status unless an application is submitted and approved by the Office of Admission.

III. STUDENT FINANCIAL AID

The Office of Student Financial Aid administers all financial awards to undergraduates. Most assistance is based on financial need, with a limited number of academic and talent scholarships. Information regarding financial assistance is contained in the brochure *Student Financial Assistance at the College of William and Mary*. Requests for this brochure and all correspondence regarding financial awards except those made by ROTC should be addressed to

Director of Student Financial Aid
College of William and Mary
Williamsburg, Virginia 23185

The Department of Military Science provides scholarships and other financial assistance for students enrolled in the College's Army ROTC Program (see page 128).

Department of Military Science
College of William and Mary
Williamsburg, Virginia 23185

FINANCIAL ASSISTANCE

Financial assistance is available to undergraduates who need additional resources to meet the costs of education at the College. Demonstrated need is established through the analysis of the Financial Aid Form (FAF) processed by the College Scholarship Service (CSS). In most cases Virginia undergraduates may expect sufficient support to enable them to attend the College for four years, while out-of-state undergraduates may expect partial support, with the level depending upon the availability of funds.

Assistance is offered for one year only, but may be renewed for each succeeding year if need continues and the undergraduate otherwise qualifies. Renewal requires the completion of the FAF for each succeeding year. The College's standard of satisfactory academic progress, which is generally the same as that required for continuance in the college, is outlined in the *Guide to Financial Aid*, available from the Financial Aid Office.

Entering students include early decision, special decision, regular decision, and transfer students. Early decision students should file the early version FAF with CSS as soon as possible. Special, regular, and transfer students should file between January 1 and February 15. Returning students should file by April 1. Late applicants will be considered on a funds available basis.

THE FINANCIAL ASSISTANCE PACKAGE

The financial assistance offer may include a grant (scholarship), loan, or part-time employment. A grant is "gift" assistance which is not to be earned or repaid. The Perkins Loan (formerly known as the National Direct Student Loan (NDSL)) and Guaranteed Student Loan (GSL) must be repaid following graduation, while part-time employment provides earnings during the academic session.

Parent Loans for Undergraduate Students (PLUS) are not usually included in the offer of student financial assistance as they are not need-based. Applicants should secure application forms from local lenders. The application period usually begins in May and extends through the academic year. Applications should be forwarded to the Office of Student Financial Aid for processing.

FINANCIAL ASSISTANCE FOR STUDENTS

PRIMARY ASSISTANCE SOURCES

Federally funded programs include the Pell Grant, the Perkins Loan (formerly known as the National Direct Student Loan), the Guaranteed Student Loan, the Parent Loan for Undergraduate Students, the Supplemental Educational Opportunity Grant, and the College Work-Study Program. The State Student Incentive Grant is jointly funded by the Federal and State Governments. In Virginia, the program is known as the College Scholarship Assistance Program (CSAP).

In addition to funding CSAP, the General Assembly of Virginia appropriates funds to public institutions for scholarships, grants, and institutional part-time employment opportunities.

Endowed scholarship funds made possible through the generosity of friends and alumni of the College provide grants for needy students.

With the exception of the PLUS loan and State Grants (other than Virginia), entering students filing the Financial Aid Form will automatically be considered for all programs listed above.

OTHER SOURCES

Additional funds are available for Virginia students. The State Council of Higher Education of Virginia (SCHEV) administers the Virginia Scholars Program, a competitive merit based program for students who are in the top of their high school class, and Virginia Transfer Grant, for black students who transfer to William and Mary. Funds are also available through the Virginia War Orphans Act for students who are dependents of deceased or disabled Virginia veterans. Eligibility requirements and application forms may be obtained from the Financial Aid Office or the Division of Veteran's Claims, P.O. Box 807, Roanoke, VA 24004.

ACADEMIC AND SPECIAL SCHOLARSHIPS

Academic scholarships are awarded solely on the basis of academic achievement at William and Mary to the nineteen ranking scholars of the College. These scholarships are not available to entering undergraduates.

Special scholarships are awarded by various departments to undergraduates who demonstrate outstanding achievement within the College. These awards are not usually available to entering undergraduates.

Awards for students who demonstrate athletic ability are provided by the Athletic Department.

Monroe Scholarships, equal to the value of tuition and fees, are available to a very select number of entering students. Selection is made by a faculty committee from among the top freshman applicants. There is no separate application.

The College of William and Mary through the Office of International Studies sponsors exchange scholarships to Saint Andrews University, Scotland, and Exeter University, England. These scholarships are open to rising juniors with a QPA of 3.4 or above. All university fees (tuition, room and board) are paid by the foreign university.

As participants in the College-sponsored programs of study abroad in the summer and junior year, William and Mary students may apply for financial assistance through the Financial Aid Office.

IV. TUITION AND OTHER EXPENSES

THE COLLEGE RESERVES THE RIGHT TO MAKE CHANGES IN ITS CHARGES **FOR ANY AND ALL PROGRAMS** AT ANY TIME, AFTER APPROVAL BY THE BOARD OF VISITORS.

TUITION AND GENERAL FEE

Any student registered for nine hours or more in 500-level courses or above, or for twelve hours or more at any level, is considered a full-time student and will be charged full-time rates.

The tuition and general fee for full-time students is a payment towards the general maintenance and operating costs of the College, including recreational and health facilities. Meal plan and room charges are additional.

Tuition and general fees for full-time undergraduate students are as follows:

- \$1,483 per semester for Virginia non-business students;
- \$1,623 per semester for Virginia business students;
- \$3,906 per semester for out-of-state non-business students;
- \$4,046 per semester for out-of-state business students.

Tuition for part-time undergraduate students is as follows:

- \$95 per credit hour for Virginia non-business students;
- \$110 per credit hour for Virginia business students;
- \$254 per credit hour for out-of-state non-business students;
- \$269 per credit hour for out-of-state business students.

Regularly enrolled degree-seeking students of the College will be charged these rates during the regular session for part-time work, based on their established domiciliary status.

Rates for students who enroll in Summer Session will be charged on the same basis.

Part-time students who are not regularly enrolled at the College and for whom no domiciliary status has been previously determined will be charged on the basis of their satisfactorily established domiciliary status.

Auditing fees are the same as those specified for part-time students unless the auditor is a full-time student.

ACCOUNTS AND REFUNDS

Payment of Accounts

Charges for the tuition and general fee, as well as fees for room rent, meal plan and applied music, are payable in advance by the semester. Registration is not complete until all fees due the Treasurer's Office are paid. **Registration will be cancelled if any balance due on a student's account is not paid by the published due date.** Remittance made by check should be payable to the College of William and Mary. Checks returned by the bank for any reason constitute nonpayment of fees and result in cancellation of registration.

Tuition Payment Plans

The College has approved participation in three tuition payment plans. Interested students should contact the Treasurer's Office at (804) 253-4210 to request brochures explaining each plan.

Refunds to Full-Time Students Who Withdraw from College

Subject to the following regulations and exceptions, all charges by the College are considered to be fully earned upon completion of registration by the student. Due to administrative procedures, refunds will not be processed until 3 weeks after classes begin.

1. No refunds will be made to a student who has been required by the College to withdraw, regardless of the date of withdrawal.
2. No refunds will be made to a student who withdraws unofficially.

TUITION AND OTHER EXPENSES

3. A full-time student who withdraws within the first five-day period immediately following the first day of classes is entitled to a refund of all payments, with the exception of any deposits or advance payments which may have been required by the College as evidence of the student's intent to enroll. If an admissions deposit has not been paid, at least \$50.00 will be retained by the College to cover the cost of registration.
4. A full-time student who withdraws at any time within the following 25 days after the first day of classes will be charged 25% of the tuition and general fee.
5. A full-time student who withdraws at any time within the second 30 days after the first day of classes will be charged 50% of the tuition and general fee.
6. A full-time student who withdraws at any time after 60 calendar days following the first day of classes will receive no refund.
7. In cases of official withdrawal not required by the College during the first 60 calendar days following the first day of classes, charges for meal plans and room rent will be pro-rated weekly based on the last date used and last date in housing, respectively.

Refunds to Part-time Students Who Withdraw from College

A part-time student at the undergraduate level is defined as one who is enrolled for 11 credit hours or less.

The refund policy noted for full-time students does not apply to part-time students. A part-time student who withdraws from school during the 2-week add/drop period will be charged \$50 to cover the cost of registration. A part-time student who withdraws from school after the two-week add/drop period and within 60 calendar days immediately following the first day of classes will be refunded 50% of the total amount due and paid.

Refunds for meal plans are calculated on the same pro-rata basis as for full-time students.

No refunds will be made to a part-time student who withdraws after 60 calendar days immediately following the first day of classes, or who has been required by the College to withdraw, or who withdraws unofficially.

Part-time Students Who Withdraw from a Course

A part-time student who withdraws from a course(s) after the 2-week add/drop period but remains registered for other academic work will not be eligible for a refund.

Credit on Accounts of Scholarship Recipients

Students awarded scholarships are required to pay the difference between the total amount of the scholarships and the total of all fees by the published due date each semester. Written verification of financial awards from outside the College must be provided to the Treasurer's Office before actual credit is applied.

A student whose scholarships exceed total charges may apply for a refund beginning 3 weeks after classes begin.

Withholding of Transcripts and Diplomas in Cases of Unpaid Accounts

Transcripts or any other information concerning scholastic records will not be released until college accounts are paid in full. Diplomas will not be awarded to persons whose college accounts are not paid in full.

ELIGIBILITY FOR IN-STATE TUITION RATE

To be eligible for the lower tuition rate available to in-state students, a student must meet the statutory test for domicile set forth in Section 23-7.4 of the Code of Virginia. Domicile is a technical legal concept, and a student's status is determined objectively through the impartial application of established rules. In general, to establish domicile students must be able to show (1) that for at least one year immediately preceding the first official day of classes their permanent home was in Virginia and (2) that they intend

to stay in Virginia indefinitely after graduation. Residence in Virginia primarily to attend college does not establish eligibility for the in-state tuition rate.

On admission to the College an entering student who claims domiciliary status is sent an application form and instructions on how to fill it out. The Office of the Registrar evaluates the application and notifies the student of its decision. A student re-enrolling in the College after an absence of one or more semesters must re-apply for domiciliary status and is subject to the same requirements as an entering student. A matriculating student whose domicile has changed may request reclassification from out-of-state to in-state; since reclassification is effective only prospectively, however, it must be applied for before the beginning of the academic semester. Any student may ask in writing for a review of an adverse decision, but a change in classification will be made only when justified by clear and convincing evidence. All questions about eligibility for domiciliary status should be addressed to the Office of the Registrar.

MEAL PLANS

The College operates two cafeterias, the William and Mary Commons and the Marketplace, together seating approximately 1250 persons.

Freshmen¹ are required to purchase a 19-meal (per week) plan for \$832 per student per semester. For all other students, the purchase of a meal plan is optional. Four meal plans are offered on a semester basis: 19 meals per week for \$832 per student; 15 meals per week for \$732 per student; 10 meals per week for \$540 per student; and 6 meals per week for \$475 per student. Students are not charged for Fall Break and both the Thanksgiving and Christmas holiday periods in the first semester or for Spring Break in the second semester. All meal plans are non-transferable.

Meal plans may be purchased by indicating the desired plan on the face of the bill and remitting the appropriate fee. With the exception of freshmen, any student may change or cancel a meal plan through the end of the first full meal plan week each semester. No changes or cancellations are permitted after this deadline. A student who elects to purchase a meal plan before the semester begins but changes the plan during the first week of the semester will be charged one full week for the original plan. Students may purchase a meal plan at any time after the end of the first full meal plan week but may not change or cancel that plan for the remainder of the semester. Refunds or charges for adding, changing or cancelling a meal plan are pro-rated on a weekly basis. The meal plan week is from Thursday through Wednesday, all days inclusive.

In cases of withdrawal from the College during the first 60 days following the first day of classes, the refund will be pro-rated from the date of official withdrawal or the date the meal plan was last used.

A student's identification card is also his meal plan card and must be presented for each meal. Identification cards are available at the Office of the Registrar.

With respect to the cost of food supplies and of food service, the College reserves the right to change its rates for meal plans at any time throughout the year to meet such additional costs.

ROOM RENT

Room rent in student residences varies from \$812 to \$900 per semester. Living in student residences is mandatory for freshmen but optional for sophomores, juniors, and seniors.

If a student contracts for College housing after the first two weeks of the residence halls' opening, the rent will be prorated on a weekly basis (Sunday through Saturday).

The College student residences are not open for occupancy during the Christmas holiday period. During the Thanksgiving and Spring Breaks selected buildings are open on a limited basis for students who remain in the area.

Students withdrawing from College facilities: A student who continues enrollment in College but who withdraws from the College housing at any time following housing check-in will receive no refund for the year's room rent unless the total occupancy of the

¹For meal plan purposes, "Freshmen" is interpreted to mean those students in their first year of residence in college who are housed in residence halls for freshman students.

TUITION AND OTHER EXPENSES

College residences is unaffected. This regulation will apply to all students regardless of the reasons they withdraw from College housing.

INCIDENTAL EXPENSES

It is impossible to estimate the exact cost to students of clothing, travel and incidental expenses. These are governed largely by the habits of the individual. The cost of books depends on the courses taken.

Money for books cannot be included in checks covering college expenses: book expenses should be paid in cash or by separate check when purchased. Checks for books should be made payable to the William and Mary Bookstore.

NON-RECURRING FEES

Application fee	\$ 30.00
Enrollment Deposit	150.00
Room Deposit	100.00
Orientation Fee	40.00
Room Damage Deposit	75.00
Room change penalty fee	25.00
Cap and gown rent, bachelor candidates	14.00
Cap and gown rent, master candidates	16.00
Cap and gown rent, doctoral candidates	17.50
Academic hood rent to Seniors and Graduate students	5.00

Application fee—A non-refundable processing fee of \$30 is required with undergraduate freshmen and transfer applications for admission to the College. This fee is not credited to the student's account. Students applying for admission from Richard Bland College are exempted from payment of this fee.

Enrollment Deposit—For new students a deposit of \$150 is required by the College to confirm the student's intention to enroll.

Room Deposit—For returning students a non-refundable deposit of \$100 is required by the College for a student to request a room. This payment is made to the Treasurer's Office and is applied to the student's account. Although payment of this deposit by returning students does not guarantee a place on campus, the College makes every effort to accommodate all undergraduate students who desire College housing. This deposit may be made by students already enrolled at any time after the beginning of second semester but must be paid before the designated date in March. No rooms will be reserved for students who have not paid a room deposit by this specified date.

Entering freshmen are not required to make a room reservation deposit until they have been notified of their admission to the College. Transfer and former students, however, are required to pay \$100 deposit upon assignment to College housing.

Orientation Fee—A non-refundable orientation fee of \$40 is required of all new students. This fee will appear on the student's bill and will be applied to the student's account.

Room Damage Deposit—A \$75 Room Damage Deposit is required before occupancy. This deposit is refundable upon leaving College housing subject to damage assessments. Room assessments for students and changes in rooms are made through the Office of Residence Life.

Room Change Penalty Fee—Students who change rooms without the approval of the Office of Residence Hall Life will be charged a penalty of \$25.

Academic Costumes—Senior and Graduate students may procure caps and gowns from the College rental supplier just prior to graduation. The fee, payable to the supplier, is \$14 for bachelor's candidates, \$16 for master's candidates, and \$17.50 for doctoral candidates. Academic hoods will be provided to all degree recipients by the College just prior to graduation at a rental fee of \$5. All fees are payable upon receipt of the items mentioned.

SPECIAL FEES

Special additional fees are charged for Applied Music courses and certain physical education courses such as Scuba Diving, Karate, and Horseback Riding. The current fee for

TUITION AND OTHER EXPENSES

Applied Music is \$170 per semester for one 30-minute lesson per week and \$340 per semester for one hour lesson per week. Students at the 400 level are exempt from paying the Applied Music fee up to the limit of four credit hours but must present a signed exemption certificate to the Treasurer's Office each semester. Fees for other special courses are determined by the demand and by the arrangements which are necessary to support such demand. None of the special fees is refundable.

V. REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

The College of William and Mary confers in course the following degrees, each under the jurisdiction of the Faculty or School indicated:

Faculty of Arts and Sciences: Bachelor of Arts (A.B.), Bachelor of Science (B.S.), Master of Arts (M.A.), Master of Science (M.S.), Doctor of Philosophy (Ph.D.), and Doctor of Psychology (Psy.D.).

The M.A. is offered in American studies, anthropology, biology, chemistry, English, government, history, marine science, mathematics, physics, psychology and sociology; the M.S. in applied science, computer science, mathematics and physics; the Ph.D. in computer science, history, marine science and physics.

School of Business Administration: Bachelor of Business Administration (B.B.A.), and Master of Business Administration (M.B.A.).

School of Education: Master of Arts in Education (M.A.), Master of Education (M.Ed.), and Doctor of Education (Ed.D.).

School of Law: Juris Doctor (J.D.), and Master of Law and Taxation (L. & T.M.).

School of Marine Science: Master of Arts (M.A.), and Doctor of Philosophy (Ph.D.).

The requirements for the baccalaureate degree of Bachelor of Business Administration will be found on page 174 of this catalog. The requirements for graduate degrees are stated in the Graduate Catalog of the Faculty of Arts and Sciences or the Catalogs of the individual Schools.

REQUIREMENTS FOR DEGREES

DEGREES OF BACHELOR OF ARTS AND BACHELOR OF SCIENCE

The undergraduate degrees of Bachelor of Arts and Bachelor of Science are liberal arts degrees. A liberal education, although it has no single fixed definition, is more than a haphazard accumulation of courses. Its essential purpose is to liberate and broaden the mind, to produce men and women with vision and perspective as well as specific practical skills and knowledge. The major foundations on which a liberal education must be built are well-recognized. For these reasons, the College requires each undergraduate to plan, with the help of a faculty advisor and within the framework of broad general degree requirements, a program of liberal education suited to his particular needs and interests.

The general degree requirements set forth below are designed to permit a high degree of flexibility for each student in planning his particular program of liberal education within broad basic limits. In this planning, a student and his advisor should build upon his previous preparation. A freshman should pursue at least one study in which he has interest and competence at the highest level his preparation allows. As early as possible he should explore some studies with which he is unfamiliar, in order to open up new interests and opportunities. Finally, he should take care to lay the foundations for his future specialization, in college or beyond in graduate or professional school, by anticipating specific prerequisites.

A liberal education presupposes certain proficiencies. Foremost among these is the ability to express oneself clearly both in speech and writing, for clear expression goes hand in hand with clear thinking. Another invaluable foundation of a liberal education is some experience with a foreign language, at least to the point where a student begins to see for himself the cultural as well as practical values of foreign language study. Since students entering college differ widely in their previous preparation in these respects, the proficiency requirements of the College establish only basic minimums; but each student is encouraged to proceed beyond these minimums to whatever extent his interests and abilities suggest.

The *Area and Sequence Requirements* guide a student in selecting courses (usually during the first two years) that contribute to a liberal education by being distributed broadly and by allowing some exploration in depth of a particular field outside the area of the student's concentration. Each student must take courses whose introductory natures illuminate disciplines in each area of arts and sciences: the humanities, the social

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

sciences, and the natural sciences and mathematics. Outside the area of concentration, the student continues the study of a subject by taking a logical sequence of advanced courses which build upon the introductory ones. When combined with the thoroughness of study in a concentration and the freedom of exploration in electives, these requirements help to develop the breadth of knowledge that characterizes the liberally educated person.

Finally, in the area of his *Concentration*, every student is required to pursue in depth the exploration of a specific academic discipline or two or more related ones through an interdisciplinary concentration. Here he has the fullest possible opportunities for both independent study and work in a Departmental Honors program, as well as for regular course work.

The Faculty of Arts and Sciences of the College determines the degree requirements for the A.B. and B.S. degrees, including the determination of the regulations governing academic standards, grading, and class attendance. Obligation to its educational mission gives to the College the right and responsibility, subject to the employment of fair procedures, to suspend, dismiss or deny continuance of a student whose academic achievement does not meet established College standards.

Requirements for degrees are stated in terms of semester credits which are based upon the satisfactory completion of courses of instruction. Usually one semester credit is given for each class hour a week through a semester. Not less than two hours of laboratory work a week through a semester will be required for a semester credit.

A continuous course covers a field of closely related material and may not be entered at the beginning of the second semester without approval of the instructor.

REQUIREMENTS FOR THE DEGREES OF A.B. AND B.S.

GENERAL REQUIREMENTS

One hundred and twenty-four semester credits are required for graduation. Of these one hundred and twenty-four semester credits, one hundred and twenty must be in academic subjects and four in a program of activities in Physical Education. A minimum of 240 quality points in academic subjects is required. A student must make a minimum quality point average of 2.0 for all courses at William and Mary for which he receives a grade of A,B,C,D or F. A student also must make a minimum quality point average of 2.0 for all courses in his or her field of concentration.

No degree will be granted by the College until the applicant has made a minimum of sixty semester credits in residence at the College in Williamsburg. This period must include the last two semesters in which credits counted toward the degree are earned.

A student must fulfill the general degree requirements set forth in the catalog at the date of entrance to the College, and he must fulfill the concentration requirements in effect when the choice of concentration is declared. A student who fails to graduate within six calendar years of the date of entrance to the College relinquishes the right to graduate under the requirements set forth in the catalog at the time of entrance, and must fulfill the requirements set forth in the catalog under which he re-enters the College for the final time prior to graduation. If a student has not been enrolled at the College for 5 calendar years or more since the end of his last semester of registration at William and Mary, his record is subject to re-evaluation under regulations available in the Office of the Dean of the Faculty of Arts and Sciences.

A student must complete degree requirements within ten semesters. A fall or spring semester during which a student attempts 12 or more academic credits counts as one semester under the ten semester rule. Summer Session, transfer credits, and underloads are counted as follows: the total number of academic credits attempted during Summer Session is divided by 15, the normal course load during a regular semester. For example, 6 hours attempted during Summer Session count as 6/15 of a semester. Academic credit transferred to the College from other institutions and underloads approved by the Committee on Academic Status for fall or spring semesters are counted proportionally in the same manner as Summer Session credits.

Normally only one introductory statistics course can be counted for degree credit unless written permission for credit in two departments has been obtained from both department chairmen. This restriction applies to Business Administration 331, Econom-

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

ics 307, Geology 403, Mathematics 401-402, Psychology 331, and Sociology 307. However, a student may count both Mathematics 401-402 and another statistics course toward a degree if Mathematics 401-402 is taken after the other statistics course.

Students requesting exemption from any of the requirements for the degrees of A.B. and B.S. must petition the Committee on Degrees. A student who wishes to initiate a petition should contact the Office of the Dean of the Faculty of Arts and Sciences. In exceptional cases, a student, by petition to the Committee on Degrees, may be released from normal requirements and permitted to devise his own program in consultation with his advisor and subject to the approval of the Committee.

PROFICIENCIES, AREA REQUIREMENTS, CONCENTRATION

The credits for a degree must be completed in accordance with the following specific requirements.

1. Proficiencies

- A. *Foreign Language*: Unless a student has completed the fourth year level in high school of an ancient or modern foreign language, or demonstrates proficiency by achieving a score of 600 on the College Board Achievement Test in French, German, Russian or Spanish, or a score of 650 on the Test in Latin, he must satisfactorily complete a fourth semester course (or above)—and all necessary prerequisites—in a language in College.

Students with documented learning disabilities, aural/oral impairments, or other handicaps which make the study of a foreign language impossible or unreasonably difficult should meet with the Associate Dean of Student Affairs (JB 209) upon matriculation and petition the Committee on Degrees to modify the foreign language requirement. Guided by test results and the recommendations of professionals, the committee may allow the substitution of other appropriate courses. Except under extraordinary circumstances, substitution of courses will not be approved after pre-registration for the senior year. Selection of the courses should be made in consultation with the Dean of Undergraduate Studies, Faculty of Arts and Sciences.

- B. *Writing*: A student whose combined SAT Verbal and English Achievement scores fall below 1300 must satisfactorily complete, normally during his first year at the College, a one-semester course in English composition, unless he (1) presents at entrance Advanced Placement Test scores of 4 or 5, or (2) applies to take and demonstrates satisfactory performance on a writing test administered during his first year at the College. A student whose combined scores are 1300 or better may take a course in writing but is not required to do so.

In addition, all students must satisfy the Concentration Writing Requirement described by each department or school. The purpose of the Concentration Writing Requirement is to ensure that students continue to develop their ability to write in clear, effective prose which contains sustained and well-developed thought. A Concentration Writing Requirement must provide students with a series of opportunities to practice their writing, especially as commented upon by an instructor. Each student is expected to complete the writing requirement before the beginning of the graduating semester, normally during the junior and senior years; where the requirement may be met through an Honors paper, a Senior paper, or the like, it may be completed as late as the end of the graduating semester. When a student has a double concentration the requirement applies in each concentration.

The Concentration Writing Requirement will apply to all first year students entering for the first time in the fall of 1983 and thereafter, and to transfer students entering in the fall of 1984 and thereafter.

- C. *Physical Education*: A student must acquire four semester credits in a physical education program. Each of the four requirements may be satisfied by electing a semester course in an activity offered by the Department of Physical Education, by participating for a season in a varsity sport, or by passing one of the skills offered. An individually designed program of adapted activities, Physical Education 193, is provided for students who cannot, because of physical disabil-

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

ity or injury, take part in the regular physical education activities courses. Such students are not automatically exempted from the physical education requirement and where possible are expected to satisfy the four course requirement by enrolling in Physical Education 193. It is recommended that a student begin physical education in the first semester of residence and continue in the program until the requirements have been satisfied.

2. Area-Sequence Requirements

A student must satisfactorily complete eleven courses distributed among the following:

Area I. Classical Studies, Comparative Literature, Dance, English, Fine Arts, Modern Languages, Music, Philosophy, Religion, Theatre and Speech.

Area II. Anthropology, Economics, Government, History, Psychology, Sociology.

Area III. Biology, Chemistry, Computer Science, Geology, Mathematics, and Physics.

(1) Area requirement—The Area requirement is fulfilled by completing, in each of the three Areas, designated Area courses totaling no less than nine credits (at least six of which must be within one department and at least three of which must be in one other department). In Area III, at least one course must include a laboratory course which is designated for area laboratory credit. Courses within the department of concentration may be used to satisfy the area requirement. The courses must be designated for area credit unless the sequence requirement is also completed in that subject field as defined in this catalogue; in that case, area requirements may be fulfilled with courses which have sequence designation.

(2) Sequence requirement—The sequence requirement is fulfilled by completing courses which carry at least six sequence credits. These courses must be in an Area which does not include the department of the student's primary concentration. The courses fulfilling the sequence requirement will be from the same department in which the student takes at least six credits of courses qualifying for Area credit, and these courses taken together must form a logical sequence of courses in the same department. Interdisciplinary sequences (in which sequence credits come from different departments) are possible, but must be approved by the Office of the Dean of the Faculty of Arts and Sciences upon the recommendation of the chairmen of the departments concerned. In the case of fulfilling area-sequence requirements in modern languages, all courses must be taken in the same language.

(3) For the purpose of meeting the above regulations, Business Administration sub-programs and concentrations in Education and Physical Education are considered to be in Area II.

(4) Each student is responsible for choosing courses which satisfy area and sequence requirements. Designations of courses are contained in the "Explanation of Course Descriptions" on p. 55.

(5) The rules stated above are written with disciplinary concentrations in mind. Those interested in interdisciplinary concentrations should contact the chairman of the Committee on Interdisciplinary Studies.

3. Concentration

Before the end of the sophomore year each student shall select either a departmental or an interdisciplinary concentration. While new concentrations may be declared after that time, applications for an interdisciplinary concentration or an international studies concentration must be submitted to the Interdisciplinary Studies Committee or International Studies Committee before the beginning of preregistration for the first semester of the student's senior year.

A student may declare two concentrations. For purposes of meeting area and sequence requirements, either concentration may be selected as the primary concentration. Usual rules for area and sequence credit are applied. A course may be

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

counted toward an area or sequence requirement and also toward the second concentration.

A. Departmental concentrations are offered (for the Bachelor of Arts degree) in Anthropology, Classical Civilization, Computer Science, Economics, Education, English Language and Literature, Fine Arts, French, German, Government, Greek, History, Latin, Mathematics, Music, Philosophy, Physical Education, Psychology, Religion, Sociology, Spanish, Theatre, and (for the Bachelor of Science degree) in Biology, Chemistry, Computer Science, Geology, Mathematics, Physical Education, Physics and Psychology.

A candidate for the B.S. degree, in addition to satisfying the Area III requirement, must complete three additional courses in Area III.

No student shall be permitted to apply toward a degree more than forty-eight semester credits in a subject field. The subject fields include: Anthropology, Biology, Chemistry, Classical Civilization, Computer Science, Economics, Education, English, Fine Arts, French, Geology, German, Government, Greek, History, Latin, Mathematics, Music, Philosophy, Physical Education, Physics, Psychology, Religion, Sociology, Spanish, and Theatre.

A student may not apply more than 33 credits in Elementary Education or 24 credits in Secondary Education toward a degree.

B. Interdisciplinary concentrations are supervised by a Committee on Interdisciplinary Studies and international studies concentrations by the International Studies Committee. Students must submit a plan to the appropriate committee for approval. Applications are available in the office of the Registrar.

C. In addition to the required concentration, a student may elect to pursue a program of studies designated as a minor. A minor consists of 18-22 credit hours of courses approved by a department or by the Committee on Interdisciplinary Studies in the case of an interdisciplinary minor and by the International Studies Committee for an international studies minor. Courses completed for a minor may also satisfy area and sequence requirements but may not be taken on a Pass/Fail basis. A student must earn at least a 2.0 grade point average in the minor. Information about specific minors can be obtained from the appropriate department or from the Office of the Dean of the Faculty of Arts and Sciences.

A student who intends to complete a minor must declare this intention to the department or Committee on Interdisciplinary Studies or International Studies Committee. This should be done before the end of the sophomore year, and must be done before registration for the final semester of the senior year. Upon completing a minor, a student must present the list of appropriate courses to the department, the Committee on Interdisciplinary Studies, or the International Studies Committee for certification and to the Registrar for verification and for posting of the permanent record card at the time of graduation.

A student who does not complete a minor may declare two concentrations.

ACADEMIC REGULATIONS

COURSE OF STUDY

ACADEMIC ADVISING

Academic advising is recognized at the College as important to the educational development of its students and as both a natural extension of teaching and an important professional obligation on the part of its faculty. Sound academic advice can make the crucial difference between a coherent and exciting education that satisfies personal and professional goals and one that is fragmented and frustrating. It helps the student address not simply course selection and scheduling but also what a liberally educated person should be and know.

Since students are responsible themselves for meeting academic goals and requirements, they are urged to take full advantage of the help and information the advisor can. They should take the initiative in making appointments with the advisor for academic and other counsel.

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Before registering for the freshman year, each student meets with his or her advisor to discuss academic, personal, and professional goals, to review the academic regulations and requirements of the College, and to receive help in planning a specific program of studies. Most students retain the same advisor during the sophomore year. Juniors and seniors are assigned advisors by the department or school in which they are completing a concentration or sub-program.

STUDENT'S PROGRAM

A full-time degree student must register for at least 12 and not more than 18 credits each semester, excluding required physical education courses. The normal load for a student planning to graduate with a degree in four years is 15 academic credits per semester, or 30 credits each academic year. An academic year is comprised of the first semester plus the second semester but does not include the summer session. Work successfully completed during a summer session is counted toward the 120 academic credits required for graduation, as is the case with transfer or advanced placement credit, but it does not count in the application of continuance standards in any academic year.

Petitions for underloads or overloads, when warranted by special circumstances, may be granted by the Committee on Academic Status; these petitions should be made in writing to the Office of the Director of Academic Support Services preferably within a period of 5 days before the first day of registration for the semester in question, but not later than 2 days before the close of the period allowed for course changes without penalty. Only to exceptionally able students, however, will the Committee on Academic Status grant permission to carry more than 18 academic credits.

Courses in Arts and Sciences and in Education may be taken for undergraduate credit on a Pass/Fail basis. This option is limited to one course in each full semester of the junior and senior years. This option, which is irrevocable after it is exercised, may be arranged with the Office of the Registrar during the period for course changes. Courses taken on a Pass/Fail basis may not be used to satisfy proficiency, area-sequence, or concentration requirements.

An undergraduate course may be audited by a student after obtaining permission of the instructor on a form supplied by the Office of the Dean of the Faculty of Arts and Sciences. If the student meets the requirements for auditors prescribed by the instructor, the course will be included on his transcript with the symbol 'O'.

An undergraduate student at the College of William and Mary may offer courses at the College numbered 500 or above for credit toward the bachelor's degree provided that:

1. The student has a grade point average of at least 2.5 overall and 3.0 in the subject field of the course,
2. The student has the appropriate prerequisites,
3. The material offered in the course is relevant to the student's program and is not available in the undergraduate curriculum.
4. The student obtains prior approval of the instructor and department chairman, the Graduate Dean of Arts and Sciences, and the Degrees Committee, and
5. The student shall not receive graduate credit for the course.

An undergraduate student of the College who has a grade point average of at least 3.0 may take for graduate credit in his senior year up to six hours of courses normally offered for graduate credit, provided that these hours are in excess of all requirements for the bachelor's degree and that the student obtains the written consent of the instructor, the head of the department or Dean of the School of Marine Science, the chairman of the Degrees Committee, and the Graduate Dean of Arts and Sciences, at the time of registration. Such a student will be considered the equivalent of an unclassified (post-baccalaureate) student as far as the application of credit for these courses toward an advanced degree at the College is concerned.

CHANGES IN REGISTRATION

For a period of two weeks after the beginning of classes a student may add or drop

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

courses. The procedure for adding and dropping courses is initiated by making application to the Office of the Registrar, and must be completed by the last day of the registration adjustment period. Unless a course change has been made in this manner it has no official standing and will not be recognized as valid by the College. Courses dropped during the adjustment period are not entered on the student's academic record.

A student may add a course after the adjustment period only in the most unusual circumstances. A petition to add a course must have a written recommendation from the student's advisor, as well as the consent of the instructor of the course to be added, before it is considered by the Committee on Academic Status. The procedure for adding courses is initiated by making application to the Office of the Director of Academic Support Services, and the advisor's recommendation should be sent directly to that office.

WITHDRAWAL FROM A COURSE

After the adjustment period, a student may only withdraw from a course prior to the 10th week of classes. A grade of "W" will be assigned for such a withdrawal; no other withdrawals are permitted *without the approval of the Academic Status Committee*. However, a student may withdraw from a course only if his/her academic load does not fall below 12 academic hours and the student follows the appropriate procedures established by the Office of the Registrar. A student may not change from credit to audit status in a course, or vice-versa, after the adjustment period. Exceptions to the foregoing policy may be granted by the Committee on Academic Status. Students are strongly urged to confer with their advisor and with the instructor of any course which they contemplate dropping. A student should inform the instructor of a course which he drops. Any semester in which a student who is pursuing a full-time academic load drops all of his courses after the registration adjustment period for other than medical reasons is designated an "attempted semester" and is counted as one semester for purposes of administering the ten-semester rule for the completion of degree requirements.

CLASS ATTENDANCE

An education system centered upon classroom instructions is obviously predicated on the concept of regular class attendance. In support of this concept, the following principles are to be observed:

1. Except for reasonable cause, students are expected to be present at all regularly scheduled class meetings, particularly their last scheduled class in each of their courses preceding and their first scheduled class in each of their courses following the Fall, Thanksgiving, Christmas, and Spring holidays.
2. Students whose attendance becomes unsatisfactory to the extent that their course performance is affected adversely should be so informed by their instructor and reported to the Director of Academic Support Services.

ACADEMIC STANDING

CLASSIFICATION OF STUDENTS

A sophomore student must have completed at least 24 credits. A junior student must have completed at least 54 credits. A senior student must have completed 85 credits.

CONTINUANCE IN COLLEGE

In order to graduate, a student must have completed 120 credits in academic subjects with a quality point average (Q.P.A.) of 2.0 both overall and in his or her field of concentration(s). Minimal progress and continuance in the College require that a student accumulate 18 academic semester credits and maintain an overall Q.P.A. of 1.0 by the end of the first academic year; 42 academic semester credits and an overall Q.P.A. of 1.3 by the end of the second academic year; 66 academic semester credits and an overall Q.P.A. of 1.6 by the end of the third academic year; and 90 academic semester credits and an overall Q.P.A. of 1.8 by the end of the fourth academic year. Transfer credit, advanced placement credit, and credit by examination are not computed in the Q.P.A.

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

All credits and quality points earned in preceding summer sessions at the College of William and Mary apply for continuance requirements.

Students whose Q.P.A. falls below 2.0 in any semester will receive a warning letter from the Office of the Director of Academic Support Services. Any student who fails to earn at least 9 credits or falls below the required Q.P.A. levels specified above will be placed automatically on academic probation for the following semester. Students permitted to continue in College on probation and students readmitted to the College on probation must earn sufficient credits and quality points to maintain the Q.P.A. levels specified above. Failing to do so, a student may be considered for academic suspension from the College by the Committee on Academic Status. The record of any student not meeting probation or continuance standards is subject to review by the Committee on Academic Status.

In order to meet continuance requirements, transfer students must meet the minimum Q.P.A. standards specified above within the corresponding range of accumulated academic semester credits, including hours accepted as transfer credit. An unclassified student enrolled for 12 or more academic hours must meet the continuance standards applicable to the regularly enrolled student. The record of a student not meeting these standards will be reviewed by the Committee on Academic Status.

WITHDRAWAL FROM COLLEGE

Students who desire to withdraw from the College should apply to the Office of the Director of Academic Support Services for permission to withdraw. The permanent record card of any student who withdraws from the College without permission from the Director will carry the notation "Withdrew Unofficially."

The Committee on Academic Status reserves the right to determine the status of students who have withdrawn from the College after the drop/add period in either semester.

REINSTATEMENT

Students who are not in good standing with the College but who wish to seek readmission to the College of William and Mary or to transfer to another institution must submit a petition for reinstatement to good standing to the Committee on Academic Status. Applications should be made well in advance of registration for the fall and spring terms. For information on specific procedures, write to the Director of Academic Support Services.

Reinstatement to good standing and readmission to the College are not automatic, but at the end of certain specified periods the student is eligible to seek these considerations from the Committee on Academic Status and the Office of Admissions respectively. A student who is asked to withdraw in January for academic deficiency may apply no earlier than April of the same year for reinstatement and for readmission to be effective in September. A student who is asked to withdraw in May or during the Summer Session may apply no earlier than November for reinstatement and for readmission to be effective in January. It is extremely unlikely that a student who is dropped twice from the College for academic deficiencies by the Committee on Academic Status will ever be reinstated to good standing.

ADVANCED PLACEMENT AND CREDIT BY EXAMINATION

Entering students interested in receiving academic credit and/or advanced placement for college level work undertaken before entering William and Mary should take the College Board Advanced Placement Examination. Advanced Placement Examinations may be taken in American history, biology, classical languages, chemistry, computer science, English, European history, history of art, mathematics, modern languages, music, and physics. These examinations are graded by the College Entrance Examination Board on a 5 point scale.

The policies in each department governing credit and/or advanced placement for scores on AP examinations vary according to how the material covered by examinations fits the curriculum of the department. Members of the William and Mary faculty are

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

actively engaged with the College Board in the development and grading of AP examinations.

In most departments, academic credit and/or advanced placement is routinely awarded based on the test score. In some cases, the advanced placement examinations are reviewed by the faculty in the appropriate department at William and Mary to determine whether advanced placement and/or academic credit is warranted, using the content of the College's introductory course as a guide. Examinations in classical languages, history of art, and music with grades of 4 or 5 are reviewed by the department.

BIOLOGY:

A score of 5 is awarded 3 credits for Biology 101 and credit for Biology 102. A student with a score of 4 is exempt from Biology 101 and 102, but receives no credit.

CHEMISTRY:

A score of 5 on the Chemistry examination is awarded 8 credits for Chemistry 103-151 and 308-354. A score of 4 will be given 4 credits for Chemistry 103-151.

COMPUTER SCIENCE:

A score of 3, 4, or 5 on the Advanced Placement Examination in Computer Science is awarded 3 credits for Computer Science 141.

ENGLISH:

A score of 4 or 5 on the English Composition and Literature examination is routinely awarded three hours of credit equivalent to English 201 and exemption from Writing 101. A score of 4 or 5 on the English Language and Composition examination is awarded only exemption from Writing 101.

GOVERNMENT:

A score of 5 in Comparative Government is awarded 3 credits for Government 203. A score of 5 in American Government is awarded 3 credits for Government 201 and a score of 4, exemption from Government 201.

HISTORY:

A score of 5 in European History or American History is awarded 6 credits for History 101-102 or History 201-202. A student with a score of 4 in European History receives 3 credits for History 102 and is exempt from History 101; one with a score of 3 is exempt from 101, 102. A student with a score of 4 in American History is given advanced placement without credit for History 201-202.

MATHEMATICS:

In the case of the Calculus BC examination, a score of 3 or better is routinely awarded eight credits for Mathematics 111-112, and a score of 2 is awarded four credits for Math 111. For a score of 4 or better on the Calculus AB examination, students are routinely granted eight credits for Mathematics 111-112, while a score of 3 warrants four credits for Mathematics 111.

MODERN LANGUAGES:

For French, German, or Spanish Language examinations, a score of 5 is awarded six credits for the 205-206 courses in that language, while a score of 4 is given credit for the 205 course. A score of 5 in the Literature examination will be given six credit as follows: French 205 and 207, German 205 and 208, Spanish 205 and 208; a grade of 4 in the Literature examination will receive credit for French 207, German 208, or Spanish 208. All tests with scores of 3 will be given credit for the 202 course for that language.

PHYSICS:

A score of 4 or 5 on the Physics B examination will be given 8 credits for Physics

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103-104. Tests with scores of 3 will be evaluated on an individual basis. If a student takes only Physics C: Mechanics or Physics C:E&M, tests will be examined for scores of 3, 4, and 5. If a student takes both Physics C examinations, a score of 4 or 5 on both parts is worth 8 credits for Physics 101-102. If either score is a 3, the test will be reviewed.

Credit received through the advanced placement program may be applied toward degree requirements, including proficiency, area-sequence and concentration requirements.

In addition, students at the College may request academic credit for courses by examination. Interested students should petition the Degrees Committee to receive permission to take an examination for credit. If the petition is granted, the department at the College in which the course is normally offered sets an appropriate examination and certifies the results to the Registrar.

Students may not receive credit by examination after registration for their final semester, or when they are enrolled in the course at the time of the request, or when upper level course work in the same subject has already begun, or when the same course has previously been failed.

William and Mary does not participate in the College Board CLEP program or in the Subject Standardized Test of the United States Armed Forces Institute.

TRANSFER OF CREDIT FROM OTHER INSTITUTIONS

Transfer credit is granted for any course taken at an accredited college or university in which the student prior to coming to the College has earned a grade of "C" or better (or, in the case of a course taken on a "Pass/Fail" basis, a grade of "P"), provided that the course is comparable to a course offered for academic credit at the College. A course is deemed comparable to a course offered for academic credit at the College if either (a) the course is similar to a course offered for academic credit at the College, or (b) it is of such a nature that it would carry academic credit if it were offered by the College. Thus, it is not necessary that a course exactly match, or be similar to a course offered at the College in order to be granted transfer credit. Equivalence credit is granted for courses satisfying condition (a). Elective transfer credit is granted for courses satisfying condition (b). For institutions on the quarter system two-thirds of the credits will be transferred to the College. Courses given equivalent status, even though transferring as few as two credits, may be used to satisfy proficiency or concentration requirements. Courses granted elective transfer credit will count toward the total number of academic credits required for the baccalaureate degree, but they may not be used to meet proficiency, area-sequence, or concentration requirements unless approval has been granted by the College's Committee on Degrees.

Transfer credit will not be granted for courses which belong in one or more of the following categories: (a) courses in professional, vocational or sectarian religious study, (b) courses below the level of introductory courses at the College, (c) freshman English courses of more than one semester which are devoted primarily to writing or composition, (d) applied music courses not accompanied or preceded by course in music theory, (e) college orientation courses. The College does not grant credit for attendance in service schools or training programs in the Armed Forces unless it can be demonstrated that such attendance is the equivalent of a course or courses offered at William and Mary. Academic courses taken while on military service at accredited colleges, universities or language institutes may be transferred in the normal manner. No credit will be granted for general military training, or for work done while a student is not in good standing.

Evaluations of credits earned from other institutions are made after a student has been selected for admission and has indicated an intention to enroll. No student may assume that credit will be given for work at other institutions until he has a written statement as to what credit will be accepted. Each transfer credit reduces the College requirement by one credit and two quality points. Transfer grades do not affect degree requirements, quality point average, or class rank. While there is no limit to the number of courses which may be transferred, William and Mary requires that at least sixty semester credits be earned in residence at the College in Williamsburg.

The policy of the School of Business Administration is to grant transfer credit for

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business administration courses which are equivalent to courses offered in the School of Business Administration. No transfer credit is granted for courses not offered by the School of Business Administration.

SUMMER SCHOOL ELSEWHERE

Any student of the College who proposes to attend a summer session elsewhere must have written permission in advance from the Committee on Degrees in order to insure that credit will be transferred. Forms are available in the Office of the Dean of the Faculty of Arts and Sciences. After a student enrolls at the College, courses taken in a summer session elsewhere may not be used to satisfy proficiency, area-sequence, minor or concentration requirements unless special approval has been granted by the Committee on Degrees.

The one exception is William and Mary summer study-abroad programs. Although courses taught by non-William and Mary faculty are graded pass/fail, they may be used to satisfy foreign language area/sequence, minor and concentration requirements.

Intersession or other short courses (shorter than 4 weeks and/or fewer than 37.5 contact hours OR longer than 4 weeks and/or fewer than 32.5 contact hours) will not receive the permission of the Committee unless the nature of the course and the special educational value of the course to the student's program are demonstrated.

EVALUATION OF STUDENTS

SYSTEM OF GRADING

Completed academic work is graded A, A—, B+, B, B—, C+, C, C—, D+, D, D— or F, unless it is taken on a Pass/Fail basis. Within letter designations, these grades have the following broad meanings: A -- excellent, B -- good, C -- satisfactory, D -- minimal pass, F -- failure. For each semester credit in a course in which a student is graded A, he or she receives 4 quality points; A—, 3.7; B+, 3.3; B, 3.0; B—, 2.7; C+, 2.3; C, 2.0; C—, 1.7; D+, 1.3; D, 1.0; D—, .7; F carries no credit and no quality points. Courses taken on a Pass/Fail basis and work required in Physical Education are graded P (pass) or F (failure).

In addition to the grades A, A—, B+, B, B—, C+, C, C—, D+, D, D— and F, the symbols "W," "G," and "I" are used on grade reports in the College records. "W" indicates: a) a student's withdrawal from a course, regardless of his academic standing, during the two weeks following the drop/add period, or b) a student's withdrawal from a course at any time through the last day of classes if the instructor reports that the student is passing the course at the time of withdrawal. As long as graded material, including class participation, has not fallen due, the student will be considered to be passing. In either case, the "W" would be given only if the student remains registered for at least 12 academic hours after the course withdrawal. Exceptions to the foregoing policy may be granted by the Committee on Academic Status.

"I" indicates that an individual student has not completed essential course work because of illness or other extenuating circumstances. This includes absence from the final examination and postponement of required work with approval of the instructor. An extension may be granted for one semester if the instructor concludes that there are unusual reasons which prevent the student from completing the assigned work. "I" automatically becomes "F" if the work is not completed; this occurs at the end of the regular semester following the course if no extension is given, or at the end of an additional semester if an extension is given.

"G" indicates that the instructor has deferred reporting the student's grade since there is not sufficient evidence on which to base a grade.

A student who believes that a final course grade has been unfairly assigned may request a review of the grade, no later than 4 weeks after the beginning of the next regular semester. Grade Review Procedures are available in the Office of the Dean of the Faculty of Arts and Sciences.

The Dean of the Faculty of Arts and Science maintains a "Dean's List" of fulltime degree-seeking undergraduate students in Arts and Sciences which includes the top 15% of the students in each class for each semester.

EXAMINATIONS

The examinations given at the end of each semester take place at the times announced on the examination schedule, which is coordinated by the Office of the Dean of the Faculty of Arts and Sciences and attached to the class schedule. Students are required to take all of their examinations at the time scheduled, unless excused on account of illness or other sufficient reasons by the Director of Academic Support Services. Students should present their reasons for an expected absence to the Director in advance of the examination. No excuse on the ground of illness will be accepted unless it is approved by the College physician. No changes in the examination schedule will be permitted individual students, except where a conflict occurs, or where a student has three scheduled examinations in three consecutive examination periods on consecutive days. Faculty members are not authorized to change scheduled final examinations.

Deferred examinations are scheduled by the Office of the Dean of the Faculty of Arts and Sciences for students who have been excused by the Office of the Director of Academic Support Services from taking their examinations at the regular time. Members of the faculty are not authorized to grant deferred examinations. The deferred examinations are given early in the following semester.

Except under very exceptional circumstances students are not permitted to postpone the taking of a deferred examination beyond the first occasion thus regularly provided; and in no case will permission to take a deferred examination be extended beyond a year from the time of the original examination from which the student was absent.

The College does not authorize re-examinations.

SPECIAL PROGRAMS

HONORS PROGRAMS

Honors study at the College includes Psychology 211-212 and special sections of History 201-202, Philosophy 102, and Physics 101-102, as well as the interdisciplinary Honors 201-202 (see page 00) and upper-level departmental programs.

The departmental Honors Program provides special opportunities through independent study for the intellectual stimulation and development of superior students in certain departments, interdisciplinary studies and international studies. Departments participating in the program are Biology, Chemistry, Classical Studies, Computer Science, Economics, English, Fine Arts, Geology, Government, History, Mathematics, Modern Languages and Literatures, Music, Philosophy, Physics, Psychology, Religion, Sociology, and Theatre and Speech.¹ Students in this program may, as the result of distinguished work, be awarded a degree with "Honors," "High Honors," or "Highest Honors."

I. *Eligibility, Admission and Continuance in the Program*

- A. Eligibility is contingent upon (1) a 3.0 cumulative quality point average, or (2) a 3.0 quality point average for the junior year alone, or (3) special permission of the Committee on Honors and Interdisciplinary Studies, which will consider appeals only when initiated by the Department as well as by the student in question.
- B. Students who wish to pursue honors work and who have good reason to believe that they will qualify under paragraph "A" above should declare their interest as early as possible to the Chair of their Department. Such declaration should be made in the spring semester of their sophomore year when they declare their field of concentration but may be made as late as the last semester of their junior year. Application for admission to honors must be made in the last semester of the junior year. Students will be admitted to candidacy when (1) their eligibility is certified by the Office of the Dean of the Faculty of Arts

¹For more detailed statements of departmental requirements, consult catalog entries by department and also separate instructions issued by each department.

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and Sciences; (2) their written thesis or project proposal is accepted by a Department committee preferably by the last semester of their junior year but no later than the end of the drop/add period during registration for the first semester of their senior year; (3) their candidacy is accepted by a Departmental Committee subject to considerations of teaching staff availability.

- C. The continuance of a student in the Honors Program is contingent on his or her maintaining what his or her major department judges to be a sufficiently high standard of work.

II. Minimum Requirements for a Degree with Honors

- A. Satisfactory completion of a program of reading and research supervised by a faculty member designated by the head of the student's major department. Six hours of credit in a course designated 495-496 in each department offering Honors shall be awarded each student satisfactorily completing the program.
- B. Satisfactory completion of the general requirements for the degree of A.B. or B.S.
- C. Presentation of an Honors Essay or completion of an Honors Thesis acceptable to the major department. This requirement must be met by April 15 of the student's senior year.
- D. Satisfactory performance in a comprehensive examination on the thesis and related background. The examination may be oral or written or both.

III. Examining Committee

- A. Each comprehensive examination shall be set and judged and each Honors Essay or Project shall be judged by an examining committee of not less than three members, including at least one member of the faculty of the candidate's major department and at least one faculty member from another department.
- B. Examining committees shall be nominated by the Chairman of the Department and approved by the Office of the Dean of the Faculty of Arts and Sciences during the first month of the candidate's final semester.

IV. Standards

- A. The award of "Honors," "High Honors," or "Highest Honors" shall be determined by the student's examining committee.
- B. The committee shall take into account the recommendation of the advisor as well as its own judgment of the examination and essay or project.
- C. When a student's work does not, in the opinion of the Committee, meet the minimum requirements for honors, the faculty member supervising the student's Honors work will determine what grade should be granted. A student may be dropped from honors work at the end of the first semester. An incomplete grade ("I") may not be awarded without the prior written approval of the Committee on Honors and Interdisciplinary Studies.

INTERNSHIPS

Qualified students, usually in their junior or senior year, may receive credit from cooperating departments for an approved program which provides an opportunity to apply and expand knowledge under expert supervision in an off-campus position. These internships should provide a structured learning experience and must be approved in advance by the department, and supervised and evaluated by a faculty member. Academic credit may be awarded (normally three hours, more in exceptional and approved cases) for the experience. Individual departments determine the number of credits in an academic internship which may count toward the minimum number of credits required in a concentration. No more than 6 credits in academic internships may be applied to the 120 credits required for graduation.

STUDY ABROAD

The College encourages students to supplement a liberal arts education through study abroad. Junior year abroad programs are available at the Université Paul Valéry in

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Montpellier, France; St. Andrews University, Scotland; University of Exeter, England; University of Muenster, West Germany; University of Copenhagen, Denmark; and Beijing Language Institute, China. Summer study abroad programs are sponsored by the College in Cambridge, England; Florence, Italy; Montpellier, France; Muenster, West Germany; St. Eustatius, Netherland Antilles.

Students interested in learning about these programs and other foreign study opportunities should see the Director of International Programs. Students should consult with the Director before completing academic program plans for credit at a foreign university. The maximum number of transfer credits awarded each semester is fifteen (15).

PRE-PROFESSIONAL PROGRAMS

Students may follow programs at William and Mary within a liberal arts framework which will prepare them for study in dentistry, engineering, forestry, medical technology, medicine, and veterinary medicine. Students who are interested in pre-professional programs should plan their programs in consultation with their advisors.

PRE-MEDICAL AND PRE-DENTAL PROGRAMS

There are no specific pre-medical or pre-dental programs at William and Mary. Students preparing for admission to medical or dental school may choose to concentrate in any department. Although medical and dental schools in general have no preference as to major field of undergraduate study, they do believe that the student should pursue a coherent program with some depth.

The foundation of medicine and dentistry is the natural sciences. All medical schools and most dental schools include in their admission requirements four laboratory science courses: biology, inorganic chemistry, organic chemistry, and general physics. The calculus is rapidly assuming the same importance. At William and Mary, the above courses are Biology 101-202, Chemistry 103-206, Chemistry 307-308, Physics 101-102, and Mathematics 111-112. Science courses in addition to these minimal requirements are required by some schools and viewed with favor by many others. In any case, the student's choice of courses should be balanced and should reflect his overall intellectual development.

Since medical schools begin to reach decisions on applicants for admission early in the senior year on the basis of records established at that time, it is advantageous that the minimal required science courses be completed in the first three years. Every pre-medical student is encouraged to seek academic guidance early in his career through scheduled consultations with Dr. Randolph Coleman in the Chemistry Department or Dr. Mitchell Byrd in the Biology Department, coordinators for pre-medical advising, and with the student's concentration advisor.

COMBINED DEGREE PROGRAMS

Academic programs of students who participate in any combined degree program must be approved in advance by the Committee on Degrees. All William and Mary degree requirements are applicable to students in the 3:2 program. All Area/Sequence and Proficiency requirements must be completed at William and Mary. Students must have at least an overall 2.0 QPA and at least a 2.0 QPA in courses taken at William and Mary toward the fulfillment of concentration requirements. Elective hours toward the concentration may be completed elsewhere but the student must earn as many credits toward the concentration as he would be required to earn if he were completing all degree requirements at William and Mary. The chairman of the department in which the student is concentrating will determine which courses elsewhere will count toward the William and Mary concentration requirements if they happen to be in other subject fields. The student must have earned 120 hours and 240 quality points, including at least 60 hours at William and Mary, before a degree is granted.

ENGINEERING SCHOOLS

William and Mary has "combined plans" with the engineering schools of Case Western Reserve, Columbia University, Rensselaer Polytechnic Institute, Washington

REQUIREMENTS FOR DEGREES AND ACADEMIC REGULATIONS

University in St. Louis, and the University of Virginia. Under the "3:2 plan", a student spends 3 years at William and Mary and two years at the engineering school and receives a bachelor's degree from William and Mary as well as a bachelor's or master's degree from the affiliated engineering school. The degree from William and Mary is awarded after one full year in the professional program upon successful completion of the degree requirements of the College.

Prerequisites for the 3:2 programs are varied, but the following general guidelines are useful. Courses which should be completed by the end of the junior year include:

- Mathematics — 111, 112, 211, 212, 302
- Physics — 101, 102, 201
- Chemistry — 103, 206
- Computer Science — 141, 240 or 242

Those interested in Electrical, Mechanical or Aerospace Engineering typically major in Physics; Chemical and Environmental Engineers major in Chemistry; Computer Systems Engineers major in Computer Science or Computer Science/Physics.

Normally a B-average is required for the student to be accepted by the Engineering Institution into their 3:2 program. The requirements tend to be slightly higher for Electrical Engineering and Computer Systems Engineering.

For details, consult the chairman of the Department of Physics.

FORESTRY AND ENVIRONMENTAL SCIENCE

The College offers a special program in cooperation with the School of Forestry and Environmental Science of Duke University. A bachelor's degree is awarded by the College after successful completion of the degree requirements of the College and one full year in the professional program. Upon completion of a five-year coordinated course of study, the student will have earned the professional degree of Master of Forestry or Master of Environmental Management from Duke University. The student devotes the last two years of his program to the professional curriculum of his choice at Duke, where courses are open only to seniors and to graduate students. Because the Duke program includes only 24 academic credits per year, William and Mary students must have completed 96 academic credits prior to enrollment at Duke. Prerequisites for this program are Math 111 or 112, Econ 101 or 102, Bio 101, CSci 141 and one statistics course. Information on curriculum planning for entry into the program with Duke is available through consultation with Dr. Martin C. Mathes, Professor of Biology.

VI. FIELDS OF CONCENTRATION, SUBPROGRAMS, AND COURSE DESCRIPTIONS

The chapters in this section describe, in alphabetical order, the requirements for concentration in the various fields and subprograms offered by the College according to the departments and schools offering them. The chapters also include the undergraduate course offerings of the departments, schools, and particular programs listed according to course number. Courses that can be taken to fulfill area and sequence requirements are indicated by symbols as described below.

Also described in the chapters are the requirements for departmental honors study, when that is provided.

EXPLANATION OF COURSE DESCRIPTIONS

(A) This course satisfies area requirements.

(S) This course satisfies sequence requirements.

(AS) This course satisfies area and sequence requirements.

(L) This course satisfies area laboratory requirements.

(*) Starred courses may be taken only with the consent of the instructor.

(†) Daggered courses may be taken only with the consent of the chairman of the department or dean of the school concerned.

A hyphen between course numbers (101-102) indicates a continuous course the two parts of which must be taken in numerical order. A comma between course numbers (101, 102) indicates two closely related courses which need not be taken in numerical order.

Courses involving laboratory or studio activity are so labeled. All others are classroom courses.

Semester hour credit for each course is indicated by numbers in parentheses.

FACULTY OF ARTS AND SCIENCES

DEPARTMENTS OF INSTRUCTION

Anthropology

PROFESSORS SUTLIVE (Acting Chair, Spring 1989), ALTSHULER, BARKA, REINHART and ZAMORA. ASSOCIATE PROFESSOR AYISI and KERNS (Acting Chair, Fall 1988). ASSISTANT PROFESSORS ENGARD¹, HAMADA, KING¹, MALPASS¹, and WRIGHT. DISTINGUISHED ADJUNCT PROFESSOR NOEL HUME. LECTURERS BROWN, MOYER, and TURNER. ADJUNCT ASSOCIATE PROFESSOR NAGELKERKEN.

The department offers work in all sub-fields of anthropology and all major geographic areas. Field and laboratory training in archaeology, physical anthropology, and ethnography is provided in a variety of courses, as well as through individual research at the senior level. In conjunction with other departments and schools within the College, the department is developing programs in tropical studies, third world studies, historical archaeology, and comparative colonial studies. The department conducts research at pre-historic and historical sites, and offers training and courses in summer archaeological field schools, and manages the William and Mary Archaeological Conservation Center.

A minor in Anthropology is fulfilled by satisfactory completion of 18 semester credits including Anthropology 201 and 202.

REQUIREMENTS FOR CONCENTRATION

Concentration in Anthropology requires 33 semester credits in anthropology, including Anthropology 201, 202, 301, 302, 400 or 410, and 401, or 402.

¹Visiting Assistant Professor 1988-89.

The Concentration Writing Requirement for Anthropology may be met by satisfactory completion of the paper(s) in an upper division course or the paper(s) for Anthropology 401,402.

DESCRIPTION OF COURSES¹

201. Human Origins. (A) *Fall* (3) Staff.

A general introduction to the study of human origins and the development of culture. Particular attention will be given to recent archaeological discoveries concerning human evolution of the Primate Order, the development of agriculture, and the beginnings of civilization.

202. Cultural Anthropology. (A) *Spring* (3) Staff.

An introduction to the study of contemporary human societies and cultures, using anthropological principles and theories; including ecology, economic relations, marriage, kinship, politics, law, religion, and current problems.

211. The Study of Language. *Fall and Spring* (3) Staff. (Same as English 211)

An introduction to the form and variation in human languages, particularly with regard to pronunciation and word-formation. Emphasis is divided between training in phonological and morphological analysis and examination of language variation, universals, and change.

301. Methods in Archaeology. *Fall* (3) Mr. Barka and Mr. Reinhart.

A general introduction to field and laboratory techniques of prehistoric and historic archaeological research.

302. Methods of Ethnography. *Spring* (3) Staff.

An introduction to field study including the collection and interpretation of data. The course will also include a review of techniques developed by ethnographers for the study of living communities.

304. Primitive Economic Systems. (S) *Spring* (3) Mr. Ayisi.

A study of representative economic systems of both prehistoric and modern non-industrial cultures. The course explores the evolution of technology and subsistence techniques, the development of the market system, and the interrelationship of economic organization and other aspects of culture. (Not offered 1988-89).

305. Peasant Societies. (S) *Spring* (3) Staff.

This course will explore the nature of peasants and their place in modern societies, the rise of peasants in western and nonwestern societies, problems such as agrarian reform, peasant revolutions, and economic development in third world nations.

306. The Descent of Woman. (S) *Fall* (3) Ms. Kerns.

Field and laboratory studies of non-human primates as well as human cross-cultural data will be examined in order to focus on the condition of women in several societies including modern U.S.A.

307. Social Anthropology. (S) *Fall* (3) Mr. Ayisi.

An introduction to the study of the major social features of non-industrial peoples from a functional point of view. Topics considered are incest and exogamy, marriage, the family, kinship, descent and descent groups, age and sex as associations stratification.

308. Primitive Religion. (S) *Fall* (3) Mr. Sutlive.

This course will examine the religious systems of primitive societies. Topics to be considered include myth and ritual, sorcery and witchcraft, nativistic movements, magic, and shamanism. The course will also examine the effects of modernization on primitive belief systems.

309. Biological Anthropology (Hominids). (S) *Spring* (3) Staff.

A study of the evolution of the family Hominidae through biological adaptations. The course focuses on fossil and living human populations. *Prerequisite: Anthropology 201 recommended.*

¹Course work at the 200 level is ordinarily a prerequisite for upper level courses.

311. Archaeology of North America. (S) Spring (3) Mr. Reinhart.

An introduction to the prehistory of North America north of Mexico from the earliest peopling to the historic period. The dynamics of culture development and the relation of prehistoric cultures to historic tribes will be analyzed.

314. Indians of North America. (S) Spring (3) Mr. Reinhart.

A survey of the major culture areas of aboriginal North America north of Mexico at the time of European contact. The post-contact relations between the Native Americans and the dominant White culture and the present-day situation and problems of Native Americans will be examined.

318. Archaeology of Complex Societies. (S) Spring (3) Ms. Wright.

The course explores theories proposed for the development of civilization and the state in the context of a discussion of ancient Mesopotamia, the Indus Valley and Shang civilizations.

319. Archaeology of the Near East. (S) Fall (3) Ms. Wright.

The development of agriculture, urbanism, the state and empires in the Near East with a concentration on ancient Mesopotamia and Egypt, from the prehistoric to the early historic periods.

320. The Rise and Fall of Civilizations (S) Spring (3) Ms. Wright.

A survey of prehistoric civilizations from the first settled villages to urban states in ancient Mesopotamia, Egypt, the Indus Valley, Mesoamerica, and South America.

321. Archaeology of Mesoamerica. (S) Spring (3) Mr. Reinhart.

An introduction to the prehistory of Mesoamerica with special attention to the development of Aztec and Maya civilizations.

323. Native Cultures of Latin America (S) Fall (3) Ms. Kerns

A descriptive survey of native and prehispanic peoples and cultures of Central and South America. The course will focus on the tribal cultures of the Amazon Basin and other lowland areas and an indigenous civilization such as the Inca.

324. Contemporary Peoples and Cultures of Latin America. (S) Fall (3) Ms. Kerns.

A descriptive survey of post-Conquest peoples and cultures of Central and South America. Peasant and urban cultures of the continent will be examined with particular attention given to social distinctions based upon class, ethnicity, race, language, land tenure and religion.

***326. Topics in Corporate Responsibility.** (S) Spring (3) Mr. Parkany, Mr. Robeson, and Mr. Sutlive.

Prerequisite: Permission of instructor.

This course is an interdisciplinary seminar joining faculty from Anthropology, Religion, and the School of Business Administration. It explores current issues in corporate responsibility, including such questions as consumerism, lobbying, and environmental problems. Visiting executives present cases. (*Same as Business 326, College Course 326, and Religion 326.*)

330. Peoples and Cultures of the Caribbean. (S) Spring (3) Ms. Kerns.

An introduction to the peoples and cultures of the Caribbean with particular attention given to social distinction based upon class, ethnicity, race, language, land tenure, and religion. (Not offered 1988-89).

331. Peoples and Cultures of Africa. (S) Fall (3) Mr. Ayisi.

An introduction to peoples and cultures of Africa. The ideological, social, political, and economic aspects of representative cultures are examined. Emphasis is placed on learning how to apply information gathered from particular African peoples to problems of general interest in the social sciences.

340. Peoples and Cultures of Insular Southeast Asia. (S) Fall (3) Mr. Sutlive.

A descriptive survey of the ethnic groups of Insular Southeast Asia, analyzed in terms of ecology, social structure, technology, and cultural pattern. The course concerns itself with insular southeast Asia of the ethnographic present and the present day. (Not offered 1988-89).

342. Peoples and Cultures of Mainland Southeast Asia. (S) Fall (3) Mr. Sutlive.

A descriptive survey of the major ethnic groups of Mainland Southeast Asia, analyzed in terms of ecology, language, social structure, and cultural configuration. The course concerns itself with southeast Asia in the ethnographic present and the present day. (Not offered 1988-89).

344. Peoples and Cultures of Australia and Melanesia. (S) Fall (3) Staff.

In any given semester the course will focus on one or more major structural or cultural phenomena, such as trade networks, the feud complex, cargo cult, parliamentary government, plantation economy, which has long been or has recently become of moment for Australian or Melanesian societies. (Not offered 1988-89).

345. Peoples and Cultures of Polynesia and Micronesia. (S) Fall (3) Staff.

In any given semester the course will focus on one or more major structural or cultural phenomena, such as chieftainship, social stratification, plantation economy, religion, tourist industry, which has long been or has recently become of moment for Polynesian or Micronesian societies. (Not offered 1988-89).

346. Peoples and Cultures of South Asia. (S) Fall (3) Mr. Zamora.

An ethnographic survey of the peoples and cultures of South Asia, with emphasis on India, Pakistan, Bangladesh, and Sri Lanka. The course will focus on contemporary issues and problems in theory, method and application in South Asian cultural anthropology.

347. Peoples and Cultures of East Asia. (S) Fall (3) Ms. Hamada.

An introduction to the peoples and cultures of East Asia. The course will focus on contemporary life in China, Korea and Japan, including cultural and social institutions, social norms, roles and lifestyles, and the nature, context and consequences of social change.

348. Japanese Society. (S) Fall (3) Ms. Hamada.

Examines the context within which individual Japanese live and work in Japanese society. Special attention is given to the relationship between the individual and society. Discusses Japanese socialization, schooling, family and marriage, community life, new and old religions, symbolic expressions, employment, and aging.

349. Japanese Values through Literature and Film. (S) Spring (3) Ms. Hamada.

Discusses Japanese social values and behavior through modern literature and film. Changes and continuity in Japanese society concerning important issues such as family, urbanization, gender, and self-identity are analyzed.

350. Contemporary Issues in Japanese Society: Japanese Business and Management. (S) Spring (3) Ms. Hamada.

Discusses a selected topic in depth, and explores important social issues in contemporary Japanese society. In 1988-89, the issue will be Japanese Business and Management.

From a comparative perspective of business anthropology, examines recent changes in the Japanese management system, the labor market and employment relations, business culture, the role of government, and industrial groups. Discusses the post-industrialization of Japanese society and the globalization of Japanese business. Examines the increasing role of Japanese business in the United States and the Third World.

352. Archaeology of Europe. (S) Spring (3) Mr. Barka.

A survey of the prehistoric and early cultures of Europe, covering the Paleolithic, Neolithic, Bronze, and early Iron Ages. Comparisons will be made with the cultural development of Asia, the Middle East, and Africa. (Not offered 1988-89).

360. Anthropology of Law, Politics and Diplomacy. (S) Fall (3) Mr. Zamora.

An introduction to the anthropology of law, politics, and diplomacy, with special emphasis on cross-cultural comparison between non-western societies and cultures.

362. Personality in Cultures. (S) Spring (3) Mr. Altshuler.

The relationship of culture and personality as viewed by scholars in psychology, sociology, philosophy and anthropology will be examined.

364. Tropical Ecology. (S) *Fall* (3) Mr. Sutlive.

A survey of the tropical world, its distinctive features and constituents, resources, human responses, and problems of development. (Not offered 1988-89).

366. Culture and Tradition in Pre-Colonial Africa. (S) *Fall* (3) Mr. Ayisi.

A survey of the development of African culture from the rise of the great Sudanic Kingdoms until the partition of Africa by the European powers following the Berlin conference of 1884-85. (Not offered 1988-89).

370. Stress and Its Management in Cross-cultural Perspective. (S) *Spring* (3) Mr. Sutlive.

This course will examine the sources and symptoms of stress which exist in all societies. It will describe and analyze negative consequences of untreated and unrecognized stress, and personal and social strategies for its resolution and management.

400. Anthropological Theory. *Fall* (3) Mr. Altshuler.

A seminar for senior concentrations in anthropology which deals with theories concerning the relationship of man, society and culture presented by anthropology and related disciplines.

401, 402. Anthropological Research. *Fall and Spring* (3, 3) Staff.

Under the direction of a faculty advisor each student will be required to complete a senior research project. In addition to the required three hours (401), students may elect to continue for an additional three hours (402).

409. Anthropology, Primate Behavior. (S) *Spring* (3) Staff.

A study of the adaptive strategies of the living species of the Order Primates. Specific adaptations are examined in the light of phylogenetic potentials, ecological opportunities and imperatives. *Prerequisite: Anthropology 201 recommended.*

410. History of Anthropology. (S) *Spring* (3) Mr. Sutlive.

The course will cover the development of the field of anthropology in the 19th and 20th centuries. The student will read original works by major contributors to anthropological literature such as Morgan, Tylor, Kroeber, and Levi-Strauss.

***416. Cultural Resource Management.** *Spring* (3) Mr. Turner.

An introduction to the methodology of cultural resource management, which will involve examination of conservation, preservation and rescue methods in modern archaeology. Protection legislation, potential funding sources, public involvement and procedures involved in this increasingly important phase of archaeology will be discussed and evaluated. *Prerequisite: consent of instructor.*

417. Special Topics in Anthropology.

430. Descriptive Linguistics. (S) *Fall* (3) Staff. (Same as English 405).

A study of contemporary linguistic theory and some practical methods of language analysis, including a comparison of the structures of diverse languages. *Prerequisites: 211, English 302, or 304 or consent of the instructor.*

432. Historical Archaeology. (S) *Spring* (3) Mr. Barka.

The archaeology of the era since the beginning of exploration by Europeans of the non-European world, with major emphasis upon North America. The domestic, industrial, and military past of the 17- 18- 19th centuries will be examined from an anthropological viewpoint through archaeological and documentary evidence. (Not offered 1988-89).

440. Social and Historical Linguistics. (S) *Spring* (3) Mr. Taylor. (Same as English 406).

A study of language change and language variation, with special attention paid to ways in which social variation in language influences the direction and progress of linguistic change. Some attention is also given to the development of pidgin and creole languages. *Prerequisite: English 211 or consent of the instructor.*

445. Issues in Anthropology (S) *Fall* (3) Mr. Zamora.

The course will deal with selected issues and problems in anthropology, such as war and peace, population, hunger, inequality and justice, ethnic relations, environment, minorities, etc. The course will focus on anthropological theories, methods, and applications and their bearing in the analysis of the issues and problems. *Prerequisite: Anthropology 202 or permission of the instructor.*

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450. Anthropology and Medicine. (S) Fall (3) Mr. Altshuler.

The medical system of the United States will provide the basic unit of comparison for a review of the ways in which different societies cope with problems of ill-health. The focus will be upon cultural variation in definitions of "illness" and "therapy" and the manner in which such definitions and practices are interrelated with other aspects of culture.

460, 461. Independent Study. Fall and Spring (1 to 3 credits per course) Staff.

A program of independent study involving reading, research, and the writing of a paper. The student must obtain permission from the Chairman of the Department and the faculty member under whom he is to work before registering for this course. Anthropology 460 and 461 cannot be used to satisfy the 401, 402 requirement for Anthropology concentrators.

SUMMER FIELD SCHOOL IN HISTORICAL ARCHAEOLOGY AND ETHNOGRAPHY

The Department of Anthropology will offer a Summer Field School at St. Eustatius, Dutch West Indies, and a Virginia Site (archaeology only). Students accepted for either field school will take one of the following courses during the six-week period:

Anthropology 225. Archaeological Field Methods. An introduction to archaeological field and laboratory methods through participation in a field archaeological project. Archaeological survey and mapping, excavation techniques, data collection and recording, artifact processing and analysis, and related topics. No prerequisites. 6 credits.

Anthropology 425: Advanced Archaeological Field Methods. The application of archaeological methods to an individual field project. The course will allow advanced students to work on an individual project within the framework of a supervised archaeological field program. *Prerequisites:* *Methods of Archaeology* course or equivalent and field experience, or by permission of the instructor. 6 credits.

Anthropology 426. Field Methods in Ethnography. An introduction to the study of living communities through participation in a field project. Students will learn how to collect, organize and a study cultural data while carrying out a supervised individual project on a selected topic such as marriage, kinship, government, crafts, etc. No prerequisites. 6 credits.

GRADUATE PROGRAM

The department offers the degree of Master of Arts in Anthropology with specialization in Historical Archaeology. For degree requirements and a full description of graduate courses, write to the Director of Graduate Studies, Department of Anthropology, for graduate catalog and information.

Biology

PROFESSORS WISEMAN (Chair), ACETO, BLACK, BRADLEY, BROOKS, BYRD (Chancellor Professor), COURSEN, GRANT, HALL, MANGUM, MATHES, SCOTT, TERMAN and WARE. ASSOCIATE PROFESSORS CAPELLI, FASHING, HOEGERMAN and VERMEULEN. ASSISTANT PROFESSORS BECK AND SCHENCK. ADJUNCT ASSOCIATE PROFESSORS ERWIN and WARE. ADJUNCT ASSISTANT PROFESSOR BROADWATER¹.

The program of the Department of Biology is organized to provide concentrators with a sound introduction to the principles of biology and develop an appreciation for the diversity and complexity of living things. The Department attempts to provide concentrators both breadth and depth of training as well as a variety of approaches to the study of life, while allowing maximum flexibility in the development of programs consistent with the interests and needs of individual students. The Concentration requirements below have been designed with these objectives in mind.

¹Visiting Assistant Professor 1988-89.

REQUIREMENTS FOR CONCENTRATION

A minimum of 39 hours is required for a concentration in Biology. Chemistry 307-308 and associated labs Chemistry 353 and 354 are also required and up to 8 hours of this Chemistry may be used to meet the 39 hour minimum. All grades received in Chemistry courses which are used to meet the 39 hour minimum will be included in the concentration QPA. In addition to Biology 101, 201 and 202, a concentrator must take at least one course from each of the following five subareas. At least four courses above the 202 level must include laboratory work in addition to the lecture-discussion period.

- A. *Biology of Organisms*: 309; 313; 315; 316; 320; 412; 416; 428.
- B. *Populations and Communities*: 311; 401.
- C. *Genetics*: 302.
- D. *Cell and Development*: 324; 326; 406.
- E. *Physiology*: 419; 432; 440.

It is strongly recommended that Biology concentrators complete two semesters in both mathematics and physics. Students who intend to pursue graduate work in biology should take a modern foreign language.

The Concentration Writing Requirement may be fulfilled by completion of Honors in Biology (495-496 plus Honors thesis) or by completion of the writing assignments in one of the following courses: 301, 303, 311, 316, 321, 327, 403, 411, 415, 425, 428, 440. Approval of the instructor must be obtained to select a course for this requirement. Enrollment in one of the above does not automatically entitle the student to participate in the writing program of that course. The award of "pass" or "fail" in writing will be made separately from the assignment of a course grade.

REQUIREMENTS FOR MINOR

The minor in Biology consists of 22 credits, of which Biology 101, 201 and 202 are required. The remaining 10 credits must include a laboratory course. Biology 103, 105, 307, 308, 403 or 495-496 are not applicable toward the minimum requirements.

DESCRIPTION OF COURSES

101. Principles of Biology. (A) Fall (3) Mr. Coursen.

An introduction to living things and processes. Topics covered include biochemistry and metabolism, cell biology, genetics, developmental biology, population genetics and evolution, and ecology. Three class hours

102. Principles of Biology Laboratory. (A, L) Fall (1) Ms. Beck and Mr. Coursen. Corequisite, Biology 101.

A laboratory course designed to reveal the nature of living systems through observation, experimentation and demonstration. This course is intended for non-biology concentrators and should be taken concurrently with Bio 101 to fulfill the area laboratory requirement. Three hours.

103. Human Biology. (A) Spring (3) Mr. Brooks. Prerequisite: Biology 101.

An examination of *Homo sapiens* from a biological perspective. Topics include our place in nature, basic information on human evolution, functional morphology, ecology and genetics. Not applicable toward the minimum requirements for concentration or minor in Biology. Three class hours.

105. Perspectives in Modern Biology. Fall and Spring (Credits to be arranged) Staff.

Course content will center around the topics which are related to an understanding and appreciation of the biological world that surrounds us. Topics will include a variety of organisms and approaches and will be offered as opportunity and demand arises. Designed as an elective for students who have little or no training in biology and do not intend to become biology majors or minors. (Not offered 1988-89).

106. Applied Botany. Spring (3) Mr. Mathes.

A survey of the basic structure and function of plants with emphasis on the economic uses of plants. Appropriate for students not concentrating in the natural sciences. Does

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not apply toward the requirements for concentration or minor in Biology. Three lecture hours. (Alternate years; not offered 1988-89).

201. General Botany. (A,L,S) Spring (4) Ms. Beck and Mr. Mathes. *Prerequisite:* Biology 101.

An examination of major groups of aquatic and terrestrial plants, as well as viruses, bacteria and fungi. The structure, reproduction, cytology, physiology and taxonomy of plants will be presented as well as the interrelationships of plants with their environment. *Three class hours, three laboratory hours.*

202. General Zoology. (A,L,S) Spring (4) Ms. Beck and Mr. Brooks. *Prerequisite:* Biology 101.

The study of the evolution, classification, ecology, behavior, development and functional systems of the major animal phyla. Certain aspects of human biology will also be covered. *Three class hours, three laboratory hours.*

301. Microbiology. (S) Fall (4) Mr. Vermeulen. *Prerequisite:* Biology 101.

Homologies are stressed in the study of life using the elementary systems of selected bacteria and other microorganisms. With the ultimate goal of an understanding of current research, the areas covered include classical and modern techniques, biochemistry, sexual and asexual genetics. *Two class hours, eight laboratory hours.*

302. Genetics. (S) Fall and Spring (3) Staff, Fall Semester; Mr. Hoegerman, Spring Semester. *Prerequisite:* Biology 201 or 202. *Chemistry and Mathematics are recommended.*

A comprehensive survey of genetics, including three broad areas, classical mendelism; gene structure and function; and population genetics.

303. Genetics Laboratory. Fall and Spring (1) Staff, Fall Semester; Mr. Hoegerman, Spring Semester. *Prerequisite or Corequisite:* Biology 302.

A laboratory course designed for students intending to pursue advanced studies in biology. Topics include cytogenetics, classical genetics and population genetics. The handling of living material is emphasized through experimental work with *Drosophila*, flowering plants and microbes. *Three laboratory hours.*

307. Human Physiology. Spring (3) Staff. *Prerequisite:* Biology 101. *Biology 202 is also recommended.*

Detailed study of the manner in which different organ systems of the human body function. An elective course not applicable towards the minimum requirements for concentration or minor in Biology. Students who have taken Biology 432 may not register for this course. *Two class hours, three laboratory hours.*

308. Human Anatomy. Fall (4) Staff. *Prerequisite:* Biology 101.

Gross and histological study of the human organism with particular emphasis on the neuro-muscular systems as related to physical and health education. An elective course not applicable towards the minimum requirements for concentration or minor in Biology. *Three class hours, six laboratory hours.*

309. Anatomy of Land Plants. (S) Spring (4) Mr. Hall. *Prerequisite:* Biology 201.

A systematic survey of the major cell, tissue and organ types of the bryophytes, pteridophytes, gymnosperms and angiosperms. Taxonomy, life-cycles, paleobotany and evolutionary history of each group are discussed. *Three class hours, four laboratory hours.* (Alternate years; not offered 1989-90).

311. General Ecology. (S) Fall and Spring (4) Mr. Ware, Fall Semester; Mr. Capelli, Spring Semester. *Prerequisites:* Biology 201, 202; one may be concurrent registration.

Discussion of interactions between organisms and their physical, chemical and biological environments; factors controlling the structure and distribution of populations, communities, and ecosystems. *Three class hours, three laboratory hours.*

313. Comparative Anatomy of Vertebrates. (S) Fall (4) Mr. Byrd. *Prerequisite:* Biology 202.

Consideration of the evolution of the larger taxonomic groups of chordates with a comparative study of their gross morphology. *Three class hours, six laboratory hours.*

315. Vertebrate Biology. (S) Fall (4) Mr. Brooks. Prerequisite: Biology 202.

A study of the ecology, taxonomy, behavior and physiological ecology of vertebrates, with special emphasis on the lower vertebrates. Three class hours, four laboratory hours. (Not offered 1988-89).

316. Invertebrate Biology. (S) Fall (4) Ms. Mangum. Prerequisite: Biology 202.

Ecology, physiology, behavior, and evolution of the animal phyla. Emphasis on marine and estuarine species. Strongly recommended for students interested in marine biology. Three class hours, six laboratory hours.

320. Fundamentals of Mycology. (S) Fall (3) Mr. Coursen. Prerequisites: Biology 201; knowledge of chemistry recommended.

Designed to consider the general features common to most fungi by expounding the broad trends in structure, function, and behavior which can be discerned in the group. Selected model systems which illustrate these features at the subcellular, cellular, and organismal level are examined. (Alternate years; not offered 1988-89).

321. Mycology Laboratory. Fall (1) Mr. Coursen. Prerequisite or Corequisite: Biology 320.

A laboratory course designed for students interested in broadening their microbial knowledge and acquiring laboratory skills needed to understand and investigate fundamental processes in fungi. Students will conduct a small, independent experimental problem in the latter part of the semester. Three laboratory hours. (Alternate years; not offered 1988-89).

324. Plant Development. (S) Fall (3) Mr. Mathes. Prerequisite: Biology 201.

Discussion of cell growth, auxin balance, nutrition, and cell division as factors which contribute to the determination of developmental pathways in plants. Three class hours.

325. Plant Development Laboratory. Fall (1) Mr. Mathes. Prerequisite or Corequisite: Biology 324.

Designed to supplement and complement the materials presented in Biology 324. Emphasis is placed on demonstrations involving plant structure and development. Plant diversity (field trip), germination, stems, roots, leaves, and water, plant reproduction and hormones in plant growth are investigated. Three laboratory hours.

326. Developmental Biology. (S) Spring (3) Mr. Wiseman. Prerequisite: Biology 201 or 202.

An introduction to embryonic and postembryonic developmental processes in animals and plants, emphasizing cellular differentiation, the generation of form and shape, growth regulation, cellular recognition and communication, and molecular control mechanisms of gene expression.

327. Developmental Biology Laboratory. Spring (1) Mr. Wiseman. Prerequisite or Corequisite: Biology 326.

Development of, and experimentation upon, frog and chick embryos and selected plants. Three laboratory hours.

401. Evolutionary Genetics. (S) Spring (3) Mr. Grant. Prerequisite: Biology 302 or permission of instructor.

The course is designed to consider evolution as a process: basic population genetic theory; sources of variation; natural selection; isolating mechanisms and speciation.

***403. Research in Biology.** Fall and Spring (Credit to be arranged) Staff. Prerequisite: Permission of departmental committee on Honors and Undergraduate Research.

Independent laboratory or field research under the supervision of a faculty member. A written report is required. No more than 3 hours may be applied toward the minimum 39 required for a biology concentration. Hours to be arranged.

404. Topics in Biology. Fall and Spring (Credits to be arranged) Staff. Prerequisites: Biology 101, 201 and 202.

Areas of special current research interest presented by resident and visiting faculty members as opportunity and demand arise. Hours to be arranged.

406. Cell Biology. (S) Fall (3) Ms. Broadwater. Prerequisite: Biology 201, 202.

An introduction to the ultrastructure and function of cells and subcellular organelles, as well as light and electron microscopy, cell metabolism, cell division and control of gene expression.

407. Cell Biology Laboratory. Fall (1) Ms. Broadwater. *Prerequisite or Corequisite:* Biology 406.

An introduction to the use of light and electron microscopy, histological procedures and biochemical techniques, including electrophoresis, centrifugation, respirometry and isotopes. *Three laboratory hours.*

409. Virology. (S) Spring (3) Mr. Vermeulen. *Prerequisite:* Biology 301, 406 or 414.

The mechanisms of infection and replication of selected animal, plant and bacterial viruses are discussed with special attention being directed at the type of genetic material involved—DNA or RNA. Virally induced tumors and cancers are discussed at some length.

410. Animal Behavior. (S) Spring (3) Mr. Terman. *Prerequisites:* Biology 202. Psychology 201, 202 recommended.

Description of the known behavior patterns of selected invertebrate and vertebrate groups with emphasis on adaptive significance. The involvement of genetic, ontogenetic, physiological and ecological influences on animal behavior will be examined.

411. Animal Behavior Laboratory. Spring (1) Mr. Terman. *Prerequisite or Corequisite:* Biology 410.

Designed to illustrate principles of animal behavior through laboratory and field experimentation and observation. *Four laboratory hours.*

412. Biology of Vascular Plants. (S) Fall (4) Mr. Hall. *Prerequisite:* Biology 201.

A study of the major families of vascular plants, emphasizing comparative morphology and evolutionary trends, ecological relationships, economic importance, classification and research methods. *Three class hours, four laboratory hours.*

414. Biochemistry. Spring (3) Mr. Coleman. *Prerequisites:* Chemistry 308 or 210 or consent of the instructor. *This course is the same as Chemistry 414.*

A study of the molecular basis of living processes: The chemistry of the important constituents of living matter, biosynthesis, bioenergetics, metabolism; enzyme kinetics; metabolic control, transport mechanisms.

415. General Endocrinology. (S) Spring (4) Mr. Bradley. *Prerequisites:* Biology 202 and Chemistry 307, 308; Biology 432 recommended.

The role of hormones in homeostatic, control of metabolic processes, and reproduction. This is an introductory course and is a prerequisite for Experimental Endocrinology. *Three class hours, four laboratory hours.*

416. Introduction to Ornithology. (S) Spring (4) Mr. Byrd. *Prerequisite:* Biology 202.

Introduction to the biology of birds; lecture and laboratory work on morphology, classification, migration, distribution, and breeding biology; field work on identification and general ecology. *Three class hours, eight laboratory hours.*

418. Experimental Biochemistry I. Spring (2) Mr. Vermeulen. *Prerequisite or Corequisite:* Biology 414 or 405 or Chemistry 308 or consent of the instructor.

An introduction to experimentation with biochemical systems, processes, and compounds of biochemical importance; identification and quantitative measurements of such constituents and of biological transformations. *Six laboratory hours.* (Not offered 1988-89).

419. Plant Physiology. (S) Spring (4) Mr. Mathes. *Prerequisites:* Biology 201; Chemistry 307, 308 recommended.

Mechanisms of absorption, translocation, synthesis and utilization of materials. The role of internal and external factors in plant growth. Selected laboratory experiments are used to illustrate physiological principles. A research problem is required. *Three class hours, four laboratory hours.* (Alternate years; not offered 1988-89).

424. Introduction to Radiation Biology. (S) Fall (3) Mr. Aceto. *Prerequisite:* Biology 202.

A study of the biological effects of radiation. Interaction of radiation with matter, basic mechanisms of radiation injury, biological manifestations of radiation damage. (Not offered 1988-89).

425. Radiation Biology Laboratory. Fall (1) Mr. Aceto. *Prerequisite or Corequisite:* Biology 424.

Primarily designed to supplement and complement the materials presented in Biology 424. Laboratory experiments will serve to demonstrate biological effects of radiation at the molecular, cellular, and organismic level. *Four laboratory hours.* (Not offered 1988-89).

426. Aquatic Ecology. (S) Fall (4) Mr. Capelli. *Prerequisite:* Biology 202.

Introduction to the ecology of aquatic systems; discussion of the important physical and chemical characteristics of aquatic environments and the adaptations of organisms living in water; community structure and the important processes affecting it, including major aspects of water pollution. *Three class hours, three laboratory hours.*

428. General Entomology. (S) Fall (4) Mr. Fashing. *Prerequisite:* Biology 202.

An introduction to the biology of insects designed to give the student an overview of entomology. Included are such topics as classification, morphology, physiology, behavior, ecology, and economic importance. *Three class hours, four laboratory hours.*

431. Physiological Ecology of Plants. Spring (3) Mr. Mathes and Mr. Ware. *Prerequisite:* Biology 201.

Consideration of the effects of environment on the growth, physiology, and distribution of plants. The factors which determine the adaptability of plants to various habitats will be discussed (Alternate years; not offered 1989-90).

432. Principles of Animal Physiology. (S) Fall and Spring (4) Mr. Bradley, Mr. Black, or Ms. Mangum. *Prerequisites:* Biology 202; Chemistry 307, 308; Physics 101, 102 recommended.

The function of the animal as a whole as indicated by the physiology and interrelationships of different organs and organ systems. The emphasis is on vertebrates, with comparative examples from selected invertebrates. *Three class hours, three laboratory hours.*

435. Colloquium in Developmental Biology. Fall (1) Mr. Black and Mr. Wiseman. *Prerequisite:* Biology 326.

A consideration of specific major areas, problems, and current research efforts in developmental biology. Course may be repeated; contents will vary but the credit each time will be the same (one hour). (Not offered 1989-90).

440. Mechanisms of Microbial Activity. (S) Spring (4) Mr. Coursen. *Prerequisite:* Biology 201. *Prerequisite or Corequisite:* Chemistry 307.

Examines physiological and biochemical processes associated with activities of selected microbes, including studies in cellular metabolism, synthesis, and mechanism of action of antibiotics and toxins, chemotaxis and motility, spore formation and activation, comparative photosynthesis, nutrition and cell death. *Three class hours, four laboratory hours.* (Alternate years; not offered 1989-90).

442. Molecular Biology of the Gene. (S) Fall (3) Mr. Black. *Prerequisite:* Biology 302.

Molecular genetics of microbial and higher organisms. Replication and repair of DNA, synthesis of RNA and protein, control of gene expression, genetic engineering.

†495-496. Honors. Fall and Spring (3, 3) Staff. *Prerequisite:* Senior standing, an overall grade point average of 3.0 and permission of departmental committee on Honors and Undergraduate Research.

Independent laboratory or field research for biology concentrators under the supervision of a faculty member. Students are required to write an Honors Thesis based on a review of the literature and their research.¹

GRADUATE PROGRAM

The department offers the degree of Master of Arts. For degree requirements, and a full description of graduate courses in biology, write to the department chairman for a graduate catalog.

¹For college provisions governing the admission to honors, see page 51.

Chemistry

PROFESSORS THOMPSON (Chair), DJORDJEVIC, HILL, KIEFER, KNUDSON, KRANBUEHL, ORWOLL, and SCHIAVELLI. ASSOCIATE PROFESSORS COLEMAN and DeFOTIS. ASSISTANT PROFESSORS ABELT, HOLLIS, and RICE. INSTRUCTOR PUTNAM.

The student concentrator in Chemistry is afforded a variety of options upon graduation. Many go directly into professional chemistry as employees of private industry, governmental agencies, or educational institutions. Others go on to medical school, dental school, graduate school in chemistry, biochemistry, chemical engineering, materials science, law, or business. Departmental alumni are medical doctors, lawyers, dentists, executives, directors of research, secondary school teachers, university professors, research scientists and administrators.

A number of concentrators engage in research projects for credit in association with a member of the department faculty. Normally this is begun during the second semester of the junior year and continued through the senior year. Opportunities exist for some students to work on projects in the summer between their junior and senior years.

REQUIREMENTS FOR CONCENTRATION

The minimum number of semester credits required for concentration in Chemistry is 38. Two core sequences may lead to a concentration in Chemistry.

	Core Sequence A		Core Sequence B
First Year		Chemistry 103 Chemistry 151 Chemistry 206 Chemistry 252	
Second Year	Chemistry 209 Chemistry 353 Chemistry 305 Chemistry 354	or	Chemistry 307 Chemistry 353 Chemistry 308 Chemistry 354
Third Year		Chemistry 301 Chemistry 391 Chemistry 302 Chemistry 392 Chemistry 309 Chemistry 320	

The remaining 9 semester credits required to complete the concentration are electives chosen from advanced level chemistry courses numbered 400 and above.

Core Sequence A is recommended for students expecting to concentrate in Chemistry. The first two years of Core Sequence B are the recommended and required courses for Biology concentrators. Students requiring one year of General Chemistry should enroll in Chemistry 103 and Chemistry 308 along with the appropriate laboratory courses. For Physics and Geology concentrators, Chemistry 305 may be substituted for Chemistry 308.

Students wishing to fulfill the College laboratory course requirement are encouraged to enroll in Chemistry 105 and 151 or Chemistry 106 and 252. Chemistry 105 and 106 also may be taken without lab as electives.

NOTE: Preference for enrollment in the lab courses Chemistry 151, 252, 353 and 354 will be given to students concurrently enrolled in the appropriate lecture courses.

Chemistry 105, 106, 409, 410, 495 and 496 may not be included in the minimum 38 credits required for a concentration. No more than six semester credits in Chemistry 409, 495 and 496 may be applied toward a degree.

In a typical program concentrators will have completed Chemistry 103 and the sequence Chemistry 206-209-305 or 206-307-308 plus Mathematics 111, 112 and 212 and Physics 101-102 before enrolling for Chemistry 301 in their junior year. The laboratory

courses Chemistry 151, 252, 353, 354, 391 and 392 are taken concurrently with the appropriate lecture courses. Computer Science 141 is a valuable course in the general education of a chemist, and is strongly recommended; Mathematics 211 will also be valuable for many students.

The department is listed among those accredited by the American Chemical Society. A student may earn an ACS certified degree by taking the courses required for a Chemistry concentration, including Chemistry 402 and one of the following: Chemistry 405, 409 (3 credits) or 495-6. Further, the Committee on Professional Training of the ACS recommends including courses such as 412 and 414. A reading knowledge of German, French or Russian also is recommended.

A minor in Chemistry requires the following 19 semester credits: Chemistry 103, 151, 206, 252, 209 or 307, 305 or 308, 353, 354 and 301. A declaration of intent to minor form is available in the department office.

The concentration writing requirement in the Department of Chemistry consists of two parts to be accomplished during the junior and senior years:

1. A concentrator in Chemistry will be required to enroll in Chemistry 320, Introduction to Chemical Research, normally during his/her junior year.
2. All concentrators are required to write a paper on which a grade of C or better is earned. This medium length paper (approximately 2000 words) will be required as part of one 400-level elective course in the student's program.

DESCRIPTION OF COURSES

103. General Chemistry I. (A) Fall (3) Mr. Thompson.

A study of the nature of atoms and molecules, stoichiometry, states of matter, solutions, reactions, kinetics, equilibrium, and thermodynamics. Intended for students concentrating in science.

105, 106. Chemistry: A Cultural Approach. (A) Fall and Spring (3,3) Mr. Berg and Staff.

A course designed for non-science concentrators. Topics studied include general chemical principles and their relation to the nature of science, matter, synthetic materials, energy, environment and living systems. This course may not be used as a prerequisite for any other course in chemistry. Permission of the instructor must be obtained if any college chemistry courses have been taken previously. Students wishing to fulfill the college laboratory requirement may take 105 and 151 or 106 and 252.

151. Chemistry Laboratory I (General). (L) Fall (1) Staff. *Corequisite or Prerequisite:* Chemistry 103 or 105.

Laboratory techniques in chemistry. *Four laboratory hours.*

206. Organic Chemistry I. (A) Spring (3) Staff. *Prerequisite:* Chemistry 103.

A mechanistic approach to the study of the chemistry of carbon compounds. Particular emphasis is placed on the relationship between structure and reactivity in organic reactions.

209. Organic Chemistry II. (AS) Fall (3) Mr. Abelt. *Prerequisite:* Chemistry 206.

A continuation of the development of the chemistry of organic functional groups started in Chemistry 206. Recommended for students expecting to concentrate in Chemistry.

252. Chemistry Laboratory II (Organic). (L) Spring (1) Staff. *Corequisite or Prerequisite:* Chemistry 151 and 206, or Chemistry 106.

Laboratory techniques in organic chemistry. *Four laboratory hours.*

301. Physical Chemistry I. (S) Fall (3) Mr. Knudson. *Prerequisite:* Chemistry 305 or 308. *Prerequisite or Corequisite:* Physics 101 and Mathematics 212. Mathematics 211 is recommended.

302. Physical Chemistry II. (S) Spring (3) Staff. *Prerequisite:* Chemistry 301 or consent of the instructor. *Prerequisite or Corequisite:* Physics 102.

Chemistry 301 and 302 form a two-semester sequence in physical chemistry; topics covered include the states of matter, thermodynamics and its chemical applications, chemical kinetics, quantum mechanics and its application to chemistry, atomic and molecular spectroscopy, and introductory statistical mechanics.

CHEMISTRY

305. Inorganic Chemistry. (AS) Spring (3) Staff. *Prerequisite:* Chemistry 103.

A systematic study of the properties and reactions of chemical elements and their compounds.

307. Organic Chemistry II. (AS) Fall (3) Mr. Coleman. *Prerequisite:* Chemistry 206.

A continuation of the development of the chemistry of organic functional groups started in Chemistry 206. Particular emphasis is placed on the role of metals in living systems and the biosynthesis of organic molecules. Recommended for students expecting to concentrate in the life sciences.

308. General Chemistry II. (AS) Spring (3) Staff. *Prerequisite:* Chemistry 103.

A continuation of the study of the principles of chemistry begun in Chemistry 103. Topics include thermodynamics, chemical kinetics, descriptive inorganic chemistry, acid-base chemistry, as applied to living systems. Recommended for students expecting to concentrate in the life sciences.

309. Instrumental Analysis. Fall (4) Mr. Rice. *Corequisite or Prerequisite:* Chemistry 301.

Principles and applications of analytical methodology and instrumentation to chemical analysis; topics covered include electrochemistry, spectroscopy, mass spectrometry, and chromatography. *Three class hours. Four laboratory hours.*

320. Introduction to Chemical Research. Spring (1) Staff.

Individual study on a problem in chemistry under the supervision of a faculty member. This includes instruction in using the resources of the Chemistry library and writing a paper related to the problem under study. Attendance at the departmental seminar is required. Enrollment is restricted to concentrators in chemistry, normally in their junior year.

353. Chemistry Laboratory III (Organic). Fall (1) Staff. *Corequisite or Prerequisite:* Chemistry 307 or 209. *Prerequisite:* Chemistry 252.

Laboratory techniques in organic chemistry. *Four laboratory hours.*

354. Chemistry Laboratory IV (General). Spring (1) Staff. *Corequisite or Prerequisite:* Chemistry 305 or 308. *Prerequisite:* Chemistry 151.

Laboratory techniques in chemistry. *Four laboratory hours.*

391-392. Physical Chemistry Laboratory. Fall and Spring (1, 1) Staff. *Corequisite:* Chemistry 301-302.

A series of experiments designed to accompany Chemistry 301-302. *Four laboratory hours.*

401. Advanced Physical Chemistry. Fall (3) Mr. DeFotis. *Prerequisite:* Chemistry 302.

Quantum chemistry and molecular spectroscopy; selected topics in statistical mechanics or chemical kinetics.

402. Advanced Inorganic Chemistry. Spring (3) Staff. *Prerequisites:* Chemistry 302 and 305 or consent of the instructor.

Principles and applications of symmetry to structural, bonding, and spectroscopic studies. Inorganic biochemistry—the function and structure of metals and inorganic compounds in biological systems. Other selected topics.

403. Advanced Organic Chemistry. Fall (3) Mr. Hill. *Prerequisite:* Chemistry 209 or 307, or consent of the instructor.

A structure-reactivity approach to reaction mechanisms and modern synthetic chemistry.

404. Advanced Analytical Chemistry. Spring (3) Staff. *Prerequisite:* Chemistry 309.

Advanced topics in analytical chemistry. *Three class hours.*

405. Modern Laboratory Techniques. Spring (3) Staff. *Prerequisite:* Chemistry 309.

A laboratory course providing exposure to modern experimental techniques in chemistry. *One class hour, eight laboratory hours.*

406. Radiochemistry. Spring (3) Mr. Kiefer. *Prerequisite or Corequisite:* Chemistry 302 or consent of instructor.

A study of radioactive decay, interaction of radiation with matter, nuclear structure, nuclear reactions, radiochemical techniques.

†409. Chemical Research. Fall and Spring (credits to be arranged) Staff. *May be taken only with the consent of the Department.*

A course for the advanced student affording an opportunity for individual work on a problem under the supervision of a faculty member. Attendance at the departmental seminar is required; otherwise, hours are to be arranged.

410. Seminar in Applied Chemistry. Fall (1) Staff.

A series of seminars by scientists primarily from industry and government. The course is open to students who have completed four semesters of chemistry or by permission of the instructor.

412. Macromolecules. Spring (3) Mr. Orwoll. *Prerequisite or Corequisite:* Chemistry 302 or consent of the instructor.

A study of the relationships of chemical and physical properties of synthetic and biological polymers to their molecular structure.

414. Biochemistry. Spring (3) Mr. Coleman. *Prerequisite:* Chemistry 305 or 308 or consent of the instructor. *This course is the same as Biology 414.*

A study of the molecular basis of living processes; the chemistry of important constituents of living matter, biosynthesis, metabolism, bioenergetics, enzyme kinetics, metabolic control, transport mechanisms.

495-496. Honors. Fall and Spring (3, 3) Staff.

Requirements include a program of research with readings from the original literature, presentation of an Honors Essay, and the satisfactory completion of a comprehensive oral examination in the subject area of the research. Attendance at the departmental seminar is required; otherwise, hours are to be arranged.¹

Research In Chemistry - Summer Fellowship Program. Summer only (0, 0) Staff.

A summer program for chemistry concentrators affording the opportunity to learn research skills and apply these skills to a current research problem. Each student will be designated a Summer Research Fellow and will be associated with and guided by a faculty mentor. A regular program of seminars on current topics of research interest is an essential part of the program. This program is supplementary to Chemistry 320, Introduction to Chemical Research, and provides valuable preparation for either Chemistry 495-496, Honors in Chemistry, or Chemistry 409, Chemical Research. Admission to the fellowship program is competitive.

GRADUATE PROGRAM

The Department offers the degrees of Master of Arts and Master of Science in Environmental Chemistry. For degree requirements, and a full description of graduate courses in chemistry, write to the Department Chair for a graduate catalog.

Classical Studies

ASSOCIATE PROFESSOR BARON (Chair). PROFESSORS BURNS², JONES (Chancellor Professor), and LEADBEATER. ASSOCIATE PROFESSORS OAKLEY and REILLY.

PROGRAM

The principal objectives of the Department of Classical Studies are two:

1. To contribute broadly to the humanistic education of the undergraduate student through courses involving the reading of Greek and Latin literature in the original languages and through courses conducted in English in the area of Classical Civilization;

¹For college provisions governing the admission to honors, see page 51.

²Visiting professor, 1988-89.

CLASSICAL STUDIES

2. To offer those students who wish it a specialized training in the Greek and Latin languages or in Classical Civilization for vocational or professional purposes.

In recent years, a large number of graduates have become teachers at the secondary level or have continued their study of the Classics in graduate school. Many others have used their undergraduate training as a basic educational background for various business occupations and professions.

The Department is affiliated with the American School of Classical Studies at Athens and the American Academy in Rome; students enjoy the benefits of the programs of both.

AREA AND SEQUENCE REQUIREMENTS

Students electing to meet, in Classical Studies, the general College requirement of a sequence of four courses will normally be expected to complete four courses in a single subject field; i.e., Greek or Latin or Classical Civilization. Comparative Literature 201-202 may be combined with two advanced literature courses in Classical Studies to form a sequence.

CONCENTRATION REQUIREMENTS

The Department of Classical Studies offers concentrations in three subject fields: Greek, Latin, and Classical Civilization.

A concentration in Greek consists of a minimum of 27 hours taken in the Department of Classical Studies, exclusive of courses in Classical Civilization. A minimum of six hours of Latin is required.

A concentration in Latin consists of a minimum of 27 hours taken in the Department of Classical Studies, exclusive of courses in Classical Civilization. A minimum of six hours of Greek is required.

A concentration in Classical Civilization consists of a minimum of 35 hours divided as follows:

- (1) 8 hours of elementary Latin or Greek
- (2) 27 hours from courses listed below under the heading "Classical Civilization" or included in the following list: Anthropology 301, Anthropology 352, Fine Arts 403, Government 303, History 311, Philosophy 331, Philosophy 424 (Plato), Philosophy 426 (Aristotle), Religion 333, Theatre 325. Among the courses selected must be 18 hours representing three one-year sequences from three of the following areas: Classical Literature, Classical History, Classical Art & Archaeology, Classical Philosophy.

NOTE: All students concentrating in Greek, Latin, or Classical Civilization will be required to demonstrate on examination a knowledge of Classical literature and of the history of the ancient world. (Requirement may be met by completing satisfactorily Classical Civilization 207, 208, 311, and 312).

A minor in Classical Civilization will consist of 18 credits in the area of Classical Civilization. A student may follow one of two tracks.

Track I (Technical track)

REQUIRED COURSES: Class. Civ. 311 (Ancient Greece) and 312 (Ancient Rome) and twelve additional credits from the following:

- Class. Civ. 101** (Pompeii and Herculaneum)
- Class. Civ. 110** (Classical Athens)
- Class. Civ. 217** (Greek Archaeology and Art)
- Class. Civ. 218** (Roman Archaeology and Art)
- Class. Civ. 314** (The Ancient City)
- Class. Civ. 402** (The Ancient Historians)
- Class. Civ. 420** (Greek Vase Painting)
- Class. Civ. 430** (Greek Sculpture)
- Class. Civ. 490** (Special Topics)

Track II (Literature track)

REQUIRED COURSES: Class. Civ. 207 (Introduction to Greek Literature), 208 (Introduction to Latin Literature), 311 (Ancient Greece), 312 (Ancient Rome) and six additional credits from the following:

- Class. Civ. 205** (Greek and Roman Mythology)
- Class. Civ. 401** (Ancient Epic)
- Class. Civ. 403** (Classical Tragedy)
- Class. Civ. 404** (Ancient Comedy)
- Class. Civ. 405** (Later Greek Philosophy)
- Class. Civ. 490** (Special Topics)

The Concentration Writing Requirement will be satisfied in the following way:

1. When a prospective concentrator, in consultation with a concentration advisor, fills out the form required for a declaration of concentration, the student will specify which course of those numbered 300 or above in the chosen subject field is most appropriate to his or her area of special interest. This will be that student's Concentration Writing Requirement Course.
2. At the time of registration for the specified course, the student will consult with the scheduled instructor to make all necessary arrangements for the series of opportunities to practice the writing of clear, effective prose, as the Concentration Writing Requirement requires.
3. When the student has completed the course with a grade of "C" or higher, the instructor will notify the Department chair.

DESCRIPTION OF COURSES

GREEK

101-102. Elementary Classical and New Testament Greek. *Fall and Spring* (4, 4) Mr. Leadbeater.

The elements of the Greek language with translation of stories and poems from selected readers. Parallel study of aspects of Greek civilization and of the legacy left by Greek culture and thought to the modern world.

201. Introduction to Greek Literature: Prose. (A) *Fall* (3) Ms. Reilly. *Prerequisite:* Greek 102.

A course designed to introduce the student to the basic syntactical and stylistic elements of 5th-4th cent. B.C. Attic prose through an intensive examination of selected works of Plato, Lysias, and Thucydides, and other prose writers.

202. The Literature of Greece: Prose and Poetry. (A) *Spring* (3) Ms. Reilly. *Prerequisite:* Greek 201.

Continued analysis of the style, compositional techniques and content of representative prose writers. In the second half of the semester the student will be introduced to dramatic poetry through the reading of one of the tragedies of Sophocles or Euripides.

***Greek Literature Cycle.** *Fall or Spring* (3) Mr. Leadbeater and Ms. Reilly. *Prerequisite:* Greek 202 or permission of the instructor.

The following courses are offered as the needs and wishes of students in the Department in any year may demand and as staff is available.

301. Philosophy — Plato. (AS)

302. New Testament — The Gospels, Acts and Epistles. (AS)

303. Homer — Selections from *Iliad* and *Odyssey*. (AS)

304. Philosophy — Aristotle. (AS)

305. Attic Orators (AS)

402. Herodotus. (AS)

CLASSICAL STUDIES

- 403. **Thucydides.** (AS)
- 404. **Greek Lyric Poetry.** (AS)
- 405. **Greek Tragedy — Aeschylus, Sophocles, Euripides.** (AS)
- 406. **Greek Comedy — Aristophanes and Menander.** (AS)
- 490. **Topics in Greek — Course may be repeated if readings differ.** (S)

LATIN

Students who have taken Latin in high school and wish to continue it at the College will be placed in the level appropriate to them on the basis of their achievement test scores in Latin. No student who has acquired four credits of high school Latin will be allowed to take Latin 101-102 for credit.

101-102. Elementary Latin. *Fall and Spring* (4, 4) Ms. Burns and Ms. Reilly.

This course is designed to equip the student with a mastery of the structure of the Latin language and with a knowledge of basic vocabulary. There are translations from appropriate Latin texts and parallel study of pertinent aspects of Roman life and history.

201. Introduction to Latin Prose. (A) *Fall* (3) Ms. Burns. *Prerequisite:* Latin 102 or placement on the basis of achievement test score.

There will be a review of forms and syntax after which some major prose author will be read at length.

202. Introduction to Latin Poetry. (A) *Spring* (3) Mr. Jones. *Prerequisite:* Latin 201 or placement on the basis of achievement test score.

A major poet will be read at length or numerous brief selections from Classical and medieval Latin poetry will be covered.

***Latin Literature Cycle.** *Fall or Spring* (3) Mr. Jones, Mr. Baron. *Prerequisite:* Latin 201, 202 or equivalent.

The following courses are offered as the needs and wishes of students in the Department in any year may demand and as staff is available:

- 301. **Cicero's and Pliny's Letters.** (AS)
- 302. **Latin Lyric: Catullus and Horace.** (AS)
- 303. **Cicero's Orations.** (AS)
- 304. **Elegiac Poets: Propertius, Ovid, Tibullus.** (AS)
- 305. **Roman Comedy: Plautus and Terence.** (AS)
- 307. **Roman Private Life: A Study Based on the Latin Authors.** (AS)

308. Latin Composition Based upon a Classical Model.

Reading of such Latin prose authors as Caesar, Cicero, and Nepos followed by the writing of connected Latin passages in imitation of their style. This course can be offered on a tutorial basis whenever it is requested by one or several students.

- 310. **Medieval Latin — Prose and Poetry.** (AS)
- 401. **Horace's Satires and Epistles.** (AS)
- 402. **The Latin Historians.** (AS)
- 404. **Vergil — The Latin Epic.** (AS)
- 405. **The Teaching of High School Latin.** Development of the Latin curriculum, methods of presentation, audio-visual aids, materials.
- 406. **Satires of Juvenal and Epigrams of Martial.** (AS)
- 407. **Lucretius — *De rerum natura*.** (AS)
- 408. **The Latin Novel: Petronius or Apuleius.** (AS)
- 490. **Topics in Latin. — Course may be repeated if readings differ.** (S)

GRADUATE COURSES—GREEK AND LATIN

500. Special Topics. Summer only (3) Staff. This course may be repeated if the topic is basically different.

A. Seminar in Greek Literature. Intensive study of individual Greek authors or genres, varying from year to year in accordance with the students' needs;

B. Seminar in Latin Literature. Intensive study of individual Latin authors or genres, varying from year to year in accordance with the student's needs.

Latin 510T. The Programmed Latin Course. Summer only (3) Staff.

CLASSICAL CIVILIZATION

For the following courses, a knowledge of Latin or Greek is not required. Courses numbered in the 200's are open to *all* students of the College. Courses numbered in the 300's and 400's are open to *sophomores, juniors, and seniors*.

***Classical Civilization 101. Pompeii and Herculaneum.** (A) *Fall or Spring* (3) Mr. Jones.

An introduction to the buried cities of Vesuvius; a vivid recreation of the life of Pompeii, Herculaneum, and Stabiae. This course is intended for freshmen.

***Classical Civilization 110. Classical Athens.** (A) *Spring* (3) Ms. Reilly.

An introduction to the fifth-century B.C. city of Athens. Different aspects of public and private life and the buildings, monuments, and artifacts associated with them will be studied using both primary and secondary sources. This course is intended for freshmen.

Classical Civilization 205. Greek and Roman Mythology. (A) *Fall and Spring* (3) Mr. Baron.

The origins and development of Classical mythology and heroic legend as religious belief, its relation to other mythologies, and its adaptation as literary and artistic symbol from Homer through the twentieth century A.D.

Classical Civilization 207. Greek Literature. (A) *Fall* (3) Mr. Baron.

A survey of the literary developments of ancient Greece which have influenced the form and content of European literature down to the present day. Areas studied include epic and lyric poetry, tragedy and comedy, historiography and rhetoric, and the philosophical dialogue.

Classical Civilization 208. Latin Literature. (A) *Spring* (3) Mr. Baron.

A survey of Latin literature from the Roman Republic through the Middle Ages. Topics include Roman comedy, the Latin epic, Classical and medieval lyric, satire, and ancient and medieval prose forms.

Classical Civilization 217. Greek Archaeology and Art. (AS) *Fall* (3) Ms. Reilly.

An archaeological consideration of the Minoan, Mycenaean, Archaic and Classical periods of Greek civilization. Architecture, sculpture, painting, and the minor arts are included.

Classical Civilization 218. Roman Archaeology and Art. (AS) *Spring* (3) Ms. Reilly.

The architecture, painting and sculpture of Hellenistic Greece and of Rome until the 4th c. A.D. from the archaeological viewpoint. Byzantine art as found in Greece and Italy will also be included.

Classical Civilization 301. Classical Foundations of Medical and Scientific Language. *Fall or Spring* (3) Mr. Leadbeater.

A linguistic and conceptual study of the classical foundations for medical and other scientific language. Students will be introduced to those facets of the Greek and Latin languages that have become important in the classification and description of scientific phenomena. Readings from selected Greek and Latin authors who have been primarily responsible for the genesis of scientific language. This course may not be used as part of a concentration in Classical Civilization. (Not offered 1988-89).

Classical Civilization 311, 312. Ancient History. (AS) *Fall and Spring* (3) Mr. Jones, Ms. Burns.

Ancient Civilization from prehistoric times to the downfall of the Roman Empire. The first semester deals with the ancient Orient and Greece; the second semester with Rome. This course is the same as History 301, 302.

CLASSICAL STUDIES

NOTE: Students who wish to continue the study of ancient history in the Department of Classical Studies should plan to enroll in Classical Civilization 402 (see below).

Classical Civilization 314. The Ancient City in Greece and Italy. (S) Fall (3) Ms. Reilly.

The development of urban areas of Greece and Italy between 3000 B.C. and 400 A.D. Readings from ancient observers on the urban scene. Techniques of excavations and types of evidence which give us information about life in ancient cities, towns and villages will also be studied. (Not offered 1988-89).

Classical Civilization 331. Greek Philosophy. (S) Fall (3) Mr. Cobb¹. Prerequisites: Two courses in Philosophy or consent of the instructor.

A critical examination of representative Greek philosophers with special emphasis on Plato and Aristotle. This course is the same as Philosophy 331.

Classical Civilization 401. Greek and Latin Epic. (S) Fall (3) Mr. Baron.

Careful reading, in English, of Homer's *Iliad* and *Odyssey*, Vergil's *Aeneid*, Lucan's *Pharsalia*. Discussion of the character and structure of the Classical epic and its influence on European epic and novel. This course is the same as Comparative Literature 301. (Not offered 1988-89).

Classical Civilization 402. The Greek and Roman Historians. (S) Spring (3) Mr. Jones.

The study, in translation, of the major historians of Greece and Rome, including Herodotus, Thucydides, Livy and Tacitus, with particular regard to content, literary and historical technique, and historical perspective.

Classical Civilization 403. Classical Tragedy and Its Influences. (S) Spring (3) Mr. Leadbeater.

Readings, in English, and discussion of the major works of Aeschylus, Sophocles, Euripides, and Seneca. Parallel readings in the theories of tragedy and of representative works illustrating the influence of Classical Tragedy on subsequent literary history. This course is the same as Comparative Literature 305.

Classical Civilization 404. Ancient Comedy and Its Influence. (S) Fall (3) Mr. Baron.

A study, in translation, of representative works in Aristophanes, Menander, Plautus, and Terence. Parallel readings in the theories of comedy and of representative works illustrating the influence of Ancient Comedy on subsequent literary history. This course is the same as Comparative Literature 306.

Classical Civilization 405. Later Greek Philosophy. (S) Fall or Spring (3) Mr. Leadbeater.

A study of the later aspects of Greek philosophy as they took form in Neo-Platonism and the Second Sophistic Movement. The course is intended to be an examination of Platonism as it developed in the philosophies of Plotinus, Iamblichus, Julian, and others. Emphasis will be placed on the mysticism of the age and the reaction of and influence on Christian thought as revealed in selected readings from the Church Fathers.

Classical Civilization 420. Greek Vase Painting. (S) Fall (3) Mr. Oakley. Prior completion of Classical Civilization 217 or 218 is recommended.

A study of the development of Attic red-figure and black-figure pottery. Special emphasis will be placed on the major artists who painted these vases and the iconography of their mythological scenes. (Not offered 1988-89).

Classical Civilization 430. Greek Sculpture. (S) Spring (3) Mr. Oakley. Prior completion of Classical Civilization 217 or 218 is recommended.

A survey of Archaic and Classical Greek sculpture (700-323 B.C.). The development of the successful depiction of the human figure and the use of sculpture as architectural decorating will be emphasized. Sculpture in a variety of media will be considered. (Not offered 1988-89).

Classical Civilization 490. Special Topics in Classical Civilization. (S) Fall or Spring (3) Staff.

A study in depth of some particular aspect of Greco-Roman culture. This course is intended for the student who already has some background in Classical Civilization. The course may be repeated if the topic is basically different.

¹Professor of Philosophy

Classical Civilization 500T. The Classical Humanities in the High School Curriculum. Summer only (3) Staff.

HONORS STUDY

495, 496. Honors. Fall and Spring (3, 3) Staff.

The Department of Classical Studies offers Honors Study in Greek or Latin as staff is available. Students admitted to this study will be enrolled in the course during both semesters of their senior year. The course comprises: (a) reading and discussion of selected authors in the language of the student's emphasis, Greek or Latin; (b) supervised reading of special bibliography in the field of the student's major interest; (c) satisfactory completion by April 15, of a scholarly essay; and (d) satisfactory completion of a comprehensive oral examination in the field of Greek and Latin Literature.¹

Comparative Literature

ASSOCIATE PROFESSOR HALLETT (Chair of the Committee), PROFESSOR LEADBEATER, ASSISTANT PROFESSOR FERNANDEZ

Courses in Comparative Literature fulfill Area and Sequence requirements in Area I. Students may complete a sequence in Comparative Literature by taking Comparative Literature 201, 202 and two of the courses on the 300 level listed below or any two advanced literature courses in the departments of Classical Studies, English, or Modern Languages, including courses in literature in translation. Both upper level courses need not be taken in the same department. An interdisciplinary concentration in Comparative Literature is available upon petition to the Committee for Comparative Literature and the Committee on Interdisciplinary Study.

English concentrators who do not offer courses in Comparative Literature in satisfaction of Area I requirements may include Comparative Literature 201 and 202 in the first 36 credits of their concentration program.

A minor in Comparative Literature requires 21 credits which must include

- 1) Comparative Literature 201, 202.
- 2) Either one 300 level or—with the permission of the chair of the Comparative Literature Program—one 400 level Comparative Literature course.
- 3) Two literature courses at the 300 or 400 level from among those offered by the Departments of English, Classical Studies, or Modern Languages. Both courses may not be in the same department, but they may be in the original language or in translation, depending on the student's proficiency.
- 4) Two 300 or 400 level literature courses in a foreign or classical language in the original.

Advanced grammar, conversation, and writing courses are excluded from the minor.

201, 202. Concepts in Comparative Literature. (A) Fall and Spring (3) Mr. Leadbeater and Mr. Hallett.

An introduction through the critical examination of selected literary works of major importance from various periods, to the major modes and techniques of comparative literature. Modes such as genre, literary devices, and chronological development of literary concepts will be examined from a comparative point of view.

203, 204. The Literature of East Asia. (A) Fall and Spring (3, 3) Staff. (203 is the same as Chinese 309.)

An introduction to major works in Chinese and Japanese literature. Fall semester: traditional and modern Chinese literature, including the Confucian classics, poetry, drama, short stories and the novel. Spring semester: traditional and modern Japanese literature, with special emphasis on the novel from *The Tale of Genji* (11th century) to modern works by Mishima, Kawabata, Tanizaki and other leading authors.

¹For college provisions governing the admission to honors, see page 51.

301. Greek and Latin Epic and Its Influences. (S) *Fall or Spring* (3) Mr. Baron. (Same as *Classical Civilization* 401).

Careful reading, in English, of Homer's *Iliad* and *Odyssey*, Vergil's *Aeneid*, and Lucan's *Pharsalia*. Discussion of the character and structure of the Classical Epic and its influence on European epic and novel.

302. Epic and Romance. (S) *Spring* (3) Mr. Wiggins (Same as *English* 435).

A study of the development of these major genres, with illustrative works drawn from ancient, Medieval and Renaissance, as well as English and Continental, authors.

303. The World Novel. (S) *Spring* (3) Mr. Fernandez. (Same as *English* 436).

A study of selected novels written mostly by authors who are not Anglo-American, with attention to the identity of the genre and its development from the seventeenth century to the present. Readings are by novelists such as Cervantes, Goethe, Balzac, Sartre and García Marquez.

304. Contemporary French Novel and Its Influences. (S) *Spring* (3) Mr. Hallett. (Same as *French* 388).

A study, in English translation, of trends in the Modern French Novel and their influence on contemporary literature.

305. Classical Tragedy and Its Influences. (S) *Spring* (3) Mr. Leadbeater. (Same as *Classical Civilization* 403).

Readings, in English, and discussion of the major works of Aeschylus, Sophocles, Euripides, and Seneca. Parallel readings in the theories of tragedy and of representative works, illustrating the influence of Classical Tragedy on subsequent literary history.

306. Ancient Comedy and Its Influence. (S) *Fall* (3) Mr. Leadbeater. (Same as *Classical Civilization* 404).

A study, in translation, of representative works of Aristophanes, Menander, Plautus, and Terence. Parallel readings in the theories of comedy and of representative works illustrating the influence of Ancient Comedy on subsequent literary history.

308. Survey of French and Spanish American Literary Relationships. (S) *Spring* (3) Mr. Fraser and Mr. St. Onge. (Same as *Modern Languages* 301).

The course presents a panorama of French and Spanish American literary relationships from the time of the discovery of America through the twentieth century. Topics include "The Myth of Wildness," "Civilization or Barbarism," "Romanticism," "Naturalism," "Decadentism," "Surrealism," and "Existentialism."

309. Dante and the Medieval Tradition. (S) *Fall* (3) Mr. Triolo. (Same as *Italian* 309).

Commencing with consideration of representative works in *Courtly Love* and *Scholastic* traditions, the course will focus on a study of Dante's literary, aesthetic and historical milieu as filtered through and evident in his works: *Vita nuova*, *Convivio*, *De vulgari eloquentia*, *De monarchia*, and the *Commedia*.

310. Chinese Lyric Poetry and the Western Romantic Tradition. *Spring* (3) Mr. Field. (Same as *Chinese* 310).

An exploration of the origin and development of subjective expression in classical Chinese poetry and a similar investigation of Romanticism in the West.

311. Courtly Love in Medieval Literature and Society. (S) *Spring* (3) Mr. Monson.

The development of "courtly love" in Western Europe will be examined through a study of representative texts, from troubadour poetry to the *Romance of the Rose*, including the social dimension of the phenomenon and the modern scholarly controversies surrounding it.

385. Francophone African Theater I (in French). (S) *Spring* (3) Ms. Mather. (Same as *French* 385).

A survey of plays representative of contemporary Francophone African theater, from its renaissance mid-century in the Negritude movement through its creative explosion in the hands of second generation writers of the 1970's and 1980's.

386. Francophone African Theater II (in English translation). (S) Ms. Mather. (Same as *French* 386).

A survey of plays representative of contemporary Francophone African theater, from

its renaissance mid-century in the Negritude movement through its creative explosion in the hands of second generation writers of the 1970's and 1980's. (Not offered 1988-89).

401. Lyric Poetry. (S) *Fall and Spring* (3, 3) Mr. Leadbeater.

An intensive study from a comparative point of view of the development of lyric poetry. Emphasis will be on lyric from the Classical through the Renaissance periods, although some lyric from other periods will be included as the needs of the course demand.

490. Special Topics in Comparative Literature. (S) *Fall or Spring* (3) Staff.

A study in depth of some particular aspect of Comparative Literature. The course may be repeated if the topic is basically different.

Topic for Spring 1989: Literary Theory since the 1950's. Ms. Houle.

In this seminar, mainly French theoretical essays and literary texts will be studied closely. Issues of representations, semiology, and narrative strategy will be discussed, but emphasis will be on psychoanalytic and feminist criticism. Classwork and readings will be in English.

Computer Science

ASSOCIATE PROFESSOR PROSL (Chair). PROFESSORS BYNUM, R. NOONAN, PARK, and STOCKMEYER. ASSOCIATE PROFESSORS COLLINS, FEYOCK, and KEARNS. ASSISTANT PROFESSORS GISCHER, MILLER, MORELL, and NICOL. INSTRUCTORS KING, and D. NOONAN. ADJUNCT ASSOCIATE PROFESSOR AVIOLI. ADJUNCT ASSISTANT PROFESSORS ABBOTT, HAYWARD, LAMBLIOTTE, and MIDDLETON. ADJUNCT INSTRUCTOR HUNT.

Computer science is concerned with the development of algorithms and data structures for representing and processing information using computers. Additionally, computer science is interested in the logical organization of computers themselves. Given the enormous difficulty of writing large programs, what kinds of computer languages can be easily specified, easily understood, and yet mechanically translated? What laws govern information processing? For example, are some functions inherently easier (i.e., faster) to compute than others? Do there exist functions which cannot be computed? Finally, how can knowledge be represented in a computer?

This discipline gives students the training necessary to enter graduate school in computer science and to obtain employment as computer professionals.

REQUIREMENTS FOR CONCENTRATION

A concentration in Computer Science requires 36 credits chosen from Computer Science courses (including Mathematics 413 and 414). These 36 credits must include:

1. Computer Science 141, 240, 242, 301, 304, 312, 314, and 423;
2. one of Computer Science 403, 413, and 433; and
3. any 9 credits chosen from 300-400 level Computer Science courses (including Mathematics 413, 414 but excluding Computer Science 410 and 430).

Because of the requirement for Computer Science 423, proficiency in Mathematics 111, 112, and 211 is also required for a concentration in Computer Science.

The Concentration Writing Requirement can be satisfied by completing either Computer Science 423 or Computer Science 433 with a grade of C or better, or by fulfilling the requirements for Departmental Honors in Computer Science.

REQUIREMENTS FOR MINOR

A minor in Computer Science requires 21 credits chosen from Computer Science courses (including Mathematics 413 and 414). These 21 credits must include Computer Science 141, 240, 242, 301, and any 9 credits chosen from 300-400 level Computer Science courses (including Mathematics 413, 414 but excluding Computer Science 410 and 430).

DESCRIPTION OF COURSES

131. Computer Literacy. *Fall and Spring* (3) Staff.

An introduction to the computer as a problem-solving tool and to the role of computers in society. The function and structure of an algorithm and a computer program. Elementary computer organization. The ethical uses of computers and laws governing computing. Not open to students who have received credit for any Computer Science course or Bus 331, Bus 334, Bus 409, Pysch 331, Psych 420, Psych 422, Soc 307, or Soc 408.

141. Introduction to Computer Science. (A) *Fall and Spring* (3) Staff.

Fundamental concepts of computer science, including problem solving, algorithms, programming in a higher level language, debugging, characteristics and organization of computers, data structures, and fundamentals of programming style.

240. Discrete Structures of Computer Science. (A) *Fall and Spring* (3) Staff. *Prerequisite:* C.S. 141.

Theoretical foundations of computer science, including sets, functions, boolean algebra, first order predicate calculus, trees, graphs, and discrete probability.

242. Principles of Advanced Programming. (S) *Fall and Spring* (3) Staff. *Prerequisite:* C.S. 141.

Principles of effective programming, including structured programming, stepwise refinement, assertion providing, style, debugging, control structures, decision tables, finite state machines, recursion, and encoding.

301. Data Structures. (S) *Fall and Spring* (3) Staff. *Prerequisites:* C.S. 240, 242.

Representation of data and algorithms associated with data structures. Topics include representation of lists, trees, graphs, and strings; algorithms for searching and sorting.

304. Computer Organization. (S) *Fall and Spring* (3) Staff. *Prerequisites:* C.S. 240, 242.

Organization of computer hardware and software; virtual machines, computer systems organization, machine language, assembler language, and microprogramming.

312. Programming Language Design and Implementation. (S) *Fall and Spring* (3) Staff. *Prerequisite:* C.S. 301.

A study of programming language design, history and implementation. Topics include data and operations, sequence control, data access control, storage management, and operating environment. Possible languages to be studied include FORTRAN, ALGOL, PL/1, COBOL, Pascal, Ada, APL, SNOBOL, and LISP.

314. Computer Architecture. (S) *Fall or Spring* (3) Staff. *Prerequisite:* C.S. 304.

An introduction to the principles of computer design. Topics include data representation, including adders, signed integer arithmetic, floating point representation, and character representation. A study of microprocessor, minicomputer and mainframe architecture, including clocks, memory management, bus communication, and input/output.

321. Database Systems. (S) *Fall or Spring* (3) Staff. *Prerequisite:* C.S. 301.

Design, organization, and implementation of data base management systems: file organization and processing, hierarchical, network, and relational models of data base structure, data definition and data manipulation languages, security and integrity of data bases, and the study of existing data base implementations.

403. Survey of Program Correctness. (S) *Fall or Spring* (3) Staff. *Prerequisite:* C.S. 301.

The theory and practice of program verification. The course will explore functional, algebraic, and axiomatic theories of specification and verification; proofs of data abstractions; the limits and capabilities of program testing; and an overview of systems based on these techniques.

410. Ethics of Computing. *Fall or Spring* (1) Staff. *Prerequisite:* C.S. 242.

Topics include security and privacy issues, professional ethics for programmers, the role of computer scientists in determining the direction of technological innovation, and a basic introduction to classical ethical theory.

413. Symbolic Logic and Theorem Proving. (S) *Fall or Spring* (3) Staff. *Prerequisites:* C.S. 301 and Math 211.

A survey of symbolic logic and its applications to computer science. Topics include predicate calculus, first order calculus, completeness and consistency of logical systems, normalizations, and Robinson's Resolution Theorem, applications in mechanical theorem proving, and an introduction to PROLOG.

420. Special Topics in Computer Science. (S) *Fall or Spring* (1, 2, or 3 credits, depending upon material) Staff.

A treatment of topics of interest not routinely covered by existing courses. Material may be chosen from various areas of computer science.

423. Finite Automata and Theory of Computation. (S) *Fall and Spring* (3) Staff. Prerequisites: C.S. 301, Math 211.

Theory of sequential machines, finite automata. Turning machines, recursive functions, computability of functions.

426. Simulation. *Fall or Spring* (3) Staff. Prerequisite: CS 301, Math 112.

Introduction to simulation. Discrete and continuous stochastic models, random number generation, elementary statistics, simulation of queueing and inventory systems, Monte Carlo simulation, point and interval parameter estimation.

430. Computer Languages. *Fall and Spring* (1,2, or 3 credits depending upon language; Pass/Fail only) Staff. Prerequisite: C.S. 242.

Topics include syntax, semantics, and pragmatics of one computer language, as well as the language's intended areas of applications which influenced its design. The language studied will vary, and students may repeat the course for different languages. Currently Fortran, COBOL, and PL/1 are offered for one credit, while Ada, LISP, and PROLOG are offered for two credits.

433. Analysis of Algorithms. (S) *Spring* (3) Staff. Prerequisites: C.S. 301, Math 211.

The study of algorithm design methods, such as divide-and-conquer, backtracking, and the greedy method; constructing and analyzing algorithms for knapsack and bin-packing, searching and sorting, and graph problems involving spanning trees, shortest paths, and cycle generation.

435. Software Tools and Environments. *Fall or Spring* (3) Staff. Prerequisite: C.S. 312.

The course covers the design, construction, and integration of software tools to support the programmer. Software tools such as pattern matchers, spelling checkers, lexical analyzers, parser generators, and configuration controllers are discussed along with command languages which make efficient use of these tools. Several contemporary programming environments are surveyed.

442. Compiler Construction. (S) *Spring* (3) Staff. Prerequisite: C.S. 304, C.S. 312.

The emphasis in this course is on the construction of translators for programming languages. Topics include lexical analysis, block structure, grammars, parsing, program representation and run-time organization.

444. Principles of Operating Systems. (S) *Fall or Spring* (3) Staff. Prerequisites: C.S. 301 and C.S. 304.

The conceptual view of an operating system as a collection of concurrent processes; semaphores, monitors, and rendezvous. Real and virtual memory organization and management, processor allocation and management, and external device management.

451. Survey of Artificial Intelligence. (S) *Fall or Spring* (3) Staff. Prerequisite: C.S. 301.

An introduction to the basic principles and application of computer intelligence, including self-modification and understanding. Topics include knowledge representation in trees, frames, and rules; searching techniques, including breadth-first, depth-first, and backtracking; heuristics; and problem-solving paradigms.

495-496. Honors. *Fall and Spring* (3) Staff.

Students admitted to Honors Study in Computer Science will be enrolled in this course during both semesters of their senior year. The course comprises:

- (a) supervised research in the student's special area of interest;
- (b) presentation by April 15 of an Honors Thesis; and

DANCE

- (c) satisfactory performance in a comprehensive oral examination in the field of the student's major interest.¹

GRADUATE PROGRAM

The department offers the degrees of Master of Science in Computer Science and Doctor of Philosophy in Computer Science. For degree requirements and a full description of graduate courses in computer science, write the department chair for a graduate catalog.

Dance

PROFESSORS ROBY AND SHERMAN. INSTRUCTOR LIN.

These courses supplement the required courses in Physical Education and may be elected for academic credit by men and women with the consent of the instructor. The area requirement under Area I can be fulfilled by selecting six hours from Dance 220, 305 and 306. The sequence requirement under Area I can be fulfilled by selecting twelve hours from Dance 220, 305, 306, 311, 312, 315, 405 and 406.

Courses may also be taken to form an interdisciplinary concentration in Dance and a related field or fields. Courses required for a minor in Dance are 220, 305, 306, 315, 311, 312 and one course from Dance 405, 406.

DESCRIPTION OF COURSES

TECHNIQUE. These courses are designed to develop an understanding of movements as an art form and means of expression, beginning with movement fundamentals and continuing through longer and more complex phrases with emphasis on performance. Students will be assigned to the course for which they are qualified on the basis of previous background and demonstrated ability. A maximum of 12 credit hours may be earned in Technique.

***111, 112. Elementary Modern Dance Technique.** *Fall and Spring (2, 2) Staff. Four studio hours.*

Requires permission of the instructor.

***211, 212. Intermediate Modern Dance Technique.** *Fall and Spring (2, 2) Staff. Four studio hours.*

Requires permission of the instructor.

***311, 312. Advanced Modern Dance Technique.** (S) *Fall and Spring (2, 2) Ms. Lin. Four studio hours. Credit can be earned in each of these courses twice.*

Requires permission of the instructor.

220. Introduction to Contemporary Dance. (A) *Spring (3) Ms. Sherman.*

An introduction to the field of Modern Dance with emphasis on the stylistic approach and aesthetic of the artists who have contributed to its development in the twentieth century.

***305-306. Dance Composition.** (AS) *Fall and Spring (3, 3) Ms. Roby. Prerequisite: Physical Education 187. Requires permission of instructor.*

First Semester: An introduction to the elements, materials and structure of a dance composition. *Four class and laboratory hours.*

Second Semester: Composition of dance études; form and style related to other modern arts. *Four class and laboratory hours.*

***315. Group Choreography.** (S) *Fall (3) Ms. Sherman.*

Studies geared to develop an understanding of the principles in choreographic invention for small groups and large ensembles. *Prerequisites: Dance 305 and 306.*

***405, 406. Problems in Dance.** (S) *Fall and Spring (3) Ms. Roby and Ms. Sherman.*

Directed study for the advanced student arranged on an individual basis. Each semester includes a substantial choreographic project or a research project in a related field, such as music, theatre, or fine arts. Requires permission of the instructor.

Also see section on Physical Education Activity Courses.

¹For college provisions governing the admission to honors, see page 51.

Economics

ASSOCIATE PROFESSOR ARCHIBALD (Chair). PROFESSORS GARRETT, HAULMAN, HAUSMAN, MATTHEWS, and SCHIFRIN (Chancellor Professor). ASSOCIATE PROFESSORS ABEGAZ, BAKER, BARRY, FINIFTER, JENSEN, MOODY, and ROBERTS. ASSISTANT PROFESSORS ELLIOTT, KOPPANA¹, and TORREGROSA¹. INSTRUCTORS PEART and ZELDER.

The program in Economics is designed to offer courses of study that provide foundations for enrollment in professional programs such as Law and Business, for advanced work in Economics, and for careers as economists after completion of the B.A. degree.

REQUIREMENTS FOR CONCENTRATORS

Concentration in Economics requires a minimum of thirty semester hours of courses in Economics beyond 101, 102. All concentrators are required to take the following courses:

303. Intermediate Economic Theory: Microeconomics

304. Intermediate Economic Theory: Macroeconomics

307. Principles and Methods of Statistics

For the concentration writing requirement a student must earn a grade of C or better on the writing component of one economics course, a course to be selected by the student from a departmental listing of approved courses. Approval of the instructor at the beginning of the semester is required for a student to use a course to meet the writing requirement.

REQUIREMENTS FOR MINORS

A minor in Economics requires 21 semester hours of courses in Economics including Economics 101, 102. The remaining fifteen semester hours are to be assembled from one of the following categories:

Microeconomics: Economics 303 and twelve semester hours from: Economics 321, 361, 403, 409, 451, 309 or 446.

Macroeconomics: Economics 304 and twelve semester hours from: Economics 303, 311, 409, 411, 412, 309 or 446.

Quantitative Economics: Economics 303 and twelve semester hours from: Economics 304, 307, 308, 408, 431, 435.

International Economics: Economics 303 and/or 304 and the remainder of the fifteen semester hours from: Economics 455, 471, 472, 482, 483.

History and Development: Economics 303 and/or 304 and the remainder of the fifteen semester hours from: Economics 341, 342, 444, 455, 472, 482, 483.

Political Economy: Economics 303 and/or 304 and the remainder of the fifteen semester hours from: Economics 309, 321, 341, 342, 409, 446, 482.

Public Policy: Economics 303 and/or 304 and the remainder of the fifteen semester hours from: Economics 311, 321, 345, 361, 412, 422, 444, 451, 452, 455, 462, 472, 308.

Special programs for minors which do not meet the requirements of any of the above categories may be submitted to the Department for approval. Any such special program must include either Economics 303 or 304. The student's transcript will show simply Minor in Economics regardless of the category from which the minor is assembled.

DESCRIPTION OF COURSES

101, 102. Principles of Economics. (A) *Fall or Spring* (3, 3) Staff. This course is a prerequisite to all courses in Economics except 307. Staff.

An introduction to the analytical tools commonly employed by economists in the study of the determination of the composition of output, prices, and the aggregate level of economic activity. Problems related to these subjects are considered, and alternative courses of public policy are evaluated. Econ. 101 is microeconomics; Econ. 102 is macroeconomics.

¹Visting Assistant Professor 1988-89.

303, 304. Intermediate Economic Theory. (S) *Fall and Spring*. Abegaz, Archibald, Barry, Finifter, Haulman, Elliott, Matthews, Moody, Peart, Roberts, and Zelder. Prerequisites: Econ. 101, 102.

Econ. 303 is devoted to the theory of resource allocation in a market economy.

Econ. 304 is devoted to the theory of national income determination.

307. Principles and Methods of Statistics. *Fall and Spring* (3) Archibald, Jensen, and Hausman.

A study of the principles and uses of frequency distribution, measures of central tendency and dispersion, statistical inference, sampling, correlation and regression analysis.

308. Econometrics. (S) *Fall and Spring* (3) Moody and Jensen. Prerequisites: Econ. 101, 102, 307 and either Econ. 303 or 304.

A survey of the econometric methods which are commonly used in economic research with emphasis on the application of these techniques rather than their theoretical development. No calculus or linear algebra is required.

309. Marxian Economic Theory. (S) *Fall* (3) Roberts. Prerequisites: Econ 101, 102 or permission of the instructor.

An introduction to Marxian economic analysis and methodology, focusing on class relations and social distribution, the theory of value and surplus value, capital accumulation, reproduction, and economic crises.

311. Money and Banking. (S) *Fall and Spring* (3) Haulman, Koppana, Matthews, and Torregrosa. Prerequisites: Econ. 101, 102.

An analysis of the monetary system with emphasis upon financial institutions, determination of the money supply, and the relationship between money and economic activity.

321. Economics of the Public Sector. (S) *Fall and Spring* (3) Baker, Elliott, and Torregrosa. Prerequisites: Econ. 101, 102.

Theory and principles of public finance with emphasis on federal expenditures and taxes, intergovernmental relations, voting models, cost-benefit analysis, and case studies on selected topics such as education, crime, housing, water resources and health.

341. American Economic History. (S) *Fall* (3) Hausman. Prerequisites: Econ. 101, 102 or permission of the instructor.

A study of the major trends and developments in the American economy from colonial times through the New Deal. The use of economic theory to explain the past is emphasized.

342. European Economic History. (S) *Spring* (3) Hausman. Prerequisites: Econ. 101, 102 or permission of the instructor.

A study of the economic development of Europe from Medieval times to the present. Emphasis is on economic organization, structural change, fluctuations, and growth.

345. Urban Analysis. (S) *Fall* (3) Garrett. Prerequisites: Econ. 101, 102.

An economic analysis of contemporary urban problems including urban growth, housing, transportation, fiscal issues, central city development, and an economic and legal analysis of local land use issues.

361. Industrial Organization: Theory, Evidence, and Cases. (S) *Fall and Spring* (3) Schiffrin. Prerequisites: Econ. 101, 102.

An analysis of the key theories of market behavior and performance under varying conditions of competition and monopoly, the empirical studies testing these theories, and the application of the Federal antitrust laws to the private sector to protect market competition.

402. Seminar in Behavioral Economics: Questioning the Rational Choice Paradigm. (S) *Fall* (3) Elliott. Prerequisites: Econ. 303 and permission of the instructor.

An investigation of the rationality assumptions of standard economic theory, the contradictory experimental evidence, and the alternative assumptions and theories of behavior proposed by both economists and researchers in other disciplines to replace the perfectly-informed and infallible decision maker.

403. Topics in Microeconomic Theory. (S) *Spring* (3) Elliott. Prerequisites: Econ. 303 and elementary calculus.

A survey of microeconomic models extending the standard theories of profit maximizing firms and rational consumers. Topics include oligopoly reaction models, strategic gaming, nonprofit maximization, revealed preferences, hedonic prices, interdependent utility, and decision making under risk and with incomplete information.

408. Econometric Modeling. (S) Spring (3) Moody. Prerequisite: Econ 308.

An introduction to the approach, techniques, and applications of economic and econometric theory to models of economic activity. The emphasis is on the construction of the relevant econometric model, development of appropriate data, and interpretation of results. Models developed in class will be used for forecasting, simulation and policy analysis.

409. Theoretical Controversies in Political Economy. (S) Spring (3) Roberts. Prerequisites: Econ. 303, 304, or permission of the instructor.

A critical evaluation of the philosophical bases, theoretical consistency and practical consequences of some aspects of conventional economic modeling. Topics include distribution theory and capital theory, with emphasis on those contemporary alternatives which draw on Classical, Marxian, and Keynesian roots.

411. Macroeconomic Adjustments: Inflation and Unemployment. (S) Fall (3) Archibald. Prerequisites: Econ. 303, 304.

A critical survey of the current state of macroeconomic model building including discussions of neoclassical, Keynesian, and disequilibrium models, emphasizing the microeconomic foundations of the macroeconomic phenomena of inflation and unemployment.

412. Stabilization Policy. (S) Spring (3) Barry. Prerequisites: Econ. 101, 102, 304 or permission of the instructor.

A theoretical and empirical analysis of current controversies in the field of stabilization policy. Issues typically considered include inflation, the deficit, the conduct of monetary policy, and the desirability of discretionary policy.

422. Environmental and Natural Resource Economics (formerly titled Economics of the Environment). (S) Spring (3) Baker. Prerequisites: Econ. 101, 102.

The application of efficiency and equity criteria to environmental issues. Topics include policies for environmental protection, renewable resources, exhaustible resources and unique natural environments.

***423. Seminar in the Economics of Energy.** (S) Spring (3) Archibald. Prerequisites: Econ. 303, 307 and permission of the instructor.

This course focuses on current and future demands and supplies of various energy sources with particular attention to analysis of government energy policies. Seminar format is used emphasizing student research and participation.

431. Introduction to Mathematical Economics. (S) Fall (3) Moody. Prerequisites: Econ. 101, 102.

A survey of mathematical techniques used in economics including topics in linear algebra, calculus and optimization techniques. Emphasis will be on the economic applications of these methods.

435. Topics in Mathematical Economics. (S) Spring (3) Moody. Prerequisites: Econ. 431 or permission of the instructor.

A survey of selected topics in mathematical economics including growth theory, general equilibrium analysis and duality theory.

444. The Economic Development of the South: A Study in Regional Analysis. (S) Spring (3) Garrett. Prerequisites: Econ. 101, 102.

An analysis of the economic development of the South, 1790 to the present. Begins with the ante-bellum economy including an economic analysis of slavery, the decline in the southern economy following the Civil War, and the contemporary rapid regional growth.

446. History of Economic Thought. (S) Spring (3) Haulman, Hausman, and Peart. Prerequisites: Econ. 101, 102.

The development of economic analysis with emphasis upon Classical and Neo-Classical economics.

ECONOMICS

451. Labor Market Analysis. (S) Fall (3) Finifter and Zelder. Prerequisites: Econ. 101, 102, 303 or permission of the instructor.

A theoretical and empirical analysis of labor demand and supply behavior. Topics include labor force participation, labor mobility and wage differentials, the economics of labor unions, and analyses of minimum wage, occupational safety and health, unemployment insurance, and unemployment-inflation trade-offs.

452. Income Distribution and Human Resources. (S) Spring (3) Finifter. Prerequisites: Econ. 101, 102.

An analysis of the distribution of income and wealth and of poverty. The human capital model is studied with applications to education, training, health, and migration investments. Discrimination by race, sex, and age is analyzed. Public policy issues are examined, e.g., social security, welfare reform, affirmative action.

***455. Population Economics Seminar.** (S) Fall (3) Jensen. Prerequisites: Econ. 101, 102.

Economic analysis is used to examine the determinants and consequences of population change. Topics typically considered include the economics of population growth in developing countries, population aging in developed countries, and illegal migration into the United States.

462. Government Regulation of Business. (S) Fall and Spring (3) Baker. Prerequisites: Econ. 101, 102.

An analysis of the principles and purposes of government regulation of business. Topics include energy policy, consumer and worker protection, transportation, telecommunications, and public utilities.

***467. Seminar in the Economics of Health Care.** (S) Spring (3) Schiffrin. Prerequisites: Econ. 101, 102 and the permission of the instructor.

A survey of current issues in health care and financing, emphasizing the use of economic and statistical methods to analyze the health care sector and to evaluate alternate policy proposals relating to these issues. Seminar format with individual subjects.

471. International Economics. (S) Fall (3) Matthews. Prerequisites: Econ. 101, 102.

This course develops the theory of international trade from the Mercantilists to the modern economists. The objective is to give the student basic knowledge of analytical tools used by economists in the study of international economic problems.

472. International Trade and Policies. (S) Spring (3) Matthews. Prerequisites: Econ. 101, 102.

This course analyzes historically problems in tariffs and other protectionist devices, the effect of economic development on the pattern of world trade, and problems in balance of payments equilibrium, foreign exchange, and international finance.

474. Seminar in Comparative Macroeconomic Policy. (S) Fall (3) Abegaz. Prerequisites: Econ. 101, 102, 304 and permission of the instructor.

A comparative survey of macroeconomic policy and performance primarily in the OECD economics. Topics typically considered include monetary, fiscal, trade, industrial and incomes policies as well as the role of state-owned enterprises.

482. The Centrally Planned Economy. (S) Fall (3) Abegaz. Prerequisites: Econ. 101, 102.

The development and operation of planned Soviet-type economies as alternative systems of resource allocation and income distribution. Variations discussed range from the centrally planned (U.S.S.R., China) to the reformed (Hungary) and the labor-managed (Yugoslavia) economies.

483. Development Economics. (S) Spring (3) Abegaz. Prerequisites: Econ. 101, 102.

Survey of theories which seek to explain the pattern and tempo of development and underdevelopment in LDCs. Emphasis is on the link between the economy and institutions. Topics covered include growth patterns, income distribution, trade, finance and role of government.

400. Seminar. (S) Fall and Spring (3) Staff.

Small seminar classes limited to 15 students, typically junior or senior economics concentrators, focusing on specific topics in economic theory or policy. Seminars are offered on a rotating basis and cover a wide range of topics.

***490. Topics in Economics.** Fall and Spring (3) Staff. Prerequisites: Concentration in Economics, senior standing and permission of instructor.

A directed readings/research course conducted on an individual or group basis on various topics in economics. In exceptional situations, with the permission of the instructor, this course may be taken for 1, 2 or 4 credits.

495, 496. Honors. Fall and Spring (3) Staff.

Students admitted to the Economics Honors program will be enrolled in this course during both semesters of their senior year. Students are responsible for (a) reading of a selected bibliography; (b) satisfactory completion by April 15th of an original scholarly essay; and (c) satisfactory performance on a comprehensive oral examination. A student who completes the Honors essay but does not achieve Honors may be given credit for Economics 490.¹

English Language and Literature

PROFESSOR WILLIS (Chair). PROFESSORS BALL, DAVIDSON, DAVIS, SCOTT DONALDSON, ELLIOTT, FEHRENBACH, JENKINS, MACCUBBIN, NETTELS, SCHOLNICK, and WIGGINS. ASSOCIATE PROFESSORS BRAXTON, CONLEE, HEACOX, HULL, MEYERS, REED, SAVAGE, TAYLOR, and WENSKA. ASSISTANT PROFESSORS ALTMAN, CAMERON, SUSAN DONALDSON, FERNANDEZ, HART, KENNEDY, LAPPIN, MacGOWAN, MORSE, and STINEMAN. INSTRUCTOR LOWRY.

THE PROGRAM IN ENGLISH

The Department of English Language and Literature provides distinctive opportunities for the development of writing skills, increased sensitivity to language, awareness of the esthetic and intellectual enjoyments of literature, and an understanding of the cultural values reflected in literature.

The Department meets several specific obligations within the liberal arts program of the College. On behalf of the faculty as a whole, it provides formal instruction in English composition. The Department offers minors in literature and linguistics, and it offers courses which provide a broad program of electives for students who are not English concentrators. For concentration in linguistics see catalog entry under Interdisciplinary Study.

In its concentration program the Department serves students who are seeking to teach in the public schools; students who are preparing for graduate study in English; students who desire a rich intellectual and esthetic experience in advance of professional study in fields such as law, medicine, and business; and students who choose English simply because they enjoy the disciplined study of literature and language. In order to satisfy these needs, the Department has devised a comprehensive program of concentration that also affords the student unusual freedom in choice of courses; the English concentrator is asked to satisfy a pattern of distribution in the Department rather than to take specific courses. During the senior year a student who qualifies may pursue an Honors degree.

AREA AND SEQUENCE REQUIREMENTS

Area and sequence requirements in Area I must be satisfied by choosing courses in either literature or linguistics.

1. Literature: Students are advised (but not required) to follow indicated patterns of study. The area requirement may be met by two literature courses at the 200-level. The Department recommends that most students begin with English 201, "The Art of Literature." The sequence requirement may be met by two additional courses chosen from among those numbered above 300. The Department recommends that the 300-level courses fall within the categories of English, American, or general literature which match the 200-level courses chosen for the area requirement.

If 201, 202, 203, 204, 205, or 208 are chosen for area, the sequence courses in English literature should be chosen from among the following: 312, 323, 324, 331, 332, 341, 342, 352, 408, 409, 410, 413, 421, 422, 426, 429, 430, 434, 435, 439, 440, 452, 455, 456, 457, 458, 459, 465, 475.

¹For college provisions governing the admission to honors, see page 51.

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If 201, 202, 207, or 208 are chosen for area, then sequence courses in American literature should be chosen from among the following: 361, 362, 363, 364, 408, 452, 455, 456, 457, 458, 459, 460, 461, 465, 475.

If 201, 202, 208, or Comparative Literature 201, 202 are chosen for area, then sequence courses in general literature should be chosen from among the following: 408, 434, 435, 436, 455, 458, 459, 465, 475.

2. Linguistics: The area requirement may be met by two courses from among English 210, 211, and 303. The sequence requirement may be met by two additional courses chosen from among the following: 302, 304, 405, 406, 409, 464.

NOTE: Because upperclassmen are admitted to 200-level literature courses only if space is available and upon consent of the Department Chair, students should satisfy the area requirement in literature during their first two years.

THE MINOR IN ENGLISH

A minor in English may be either in linguistics or in literature. A minor in English (linguistics) requires 18 credits in departmental linguistics courses selected from English 210, 211, 302, 303, 304, 405, 406, 409, 464, 481. A minor in English (literature) requires 21 credits in departmental literature or writing courses (exclusive of Writing 101), at least 15 of which must be in courses numbered 300 or above, including the following:

- I. One course in the study of a major author, chosen from English 413, 421, 422, 426.
- II. One course in English literature before 1900, chosen from English 312, 323, 324, 331, 332, 341, 342.
- III. One course in the study of a genre, chosen from English 429, 430, 435, 436, 439, 440, 452, 455, 456, 457, 458, 459.

REQUIREMENTS FOR CONCENTRATION

A concentration in English requires a minimum of 36 credits in departmental courses (exclusive of Writing 101) at least 27 of which must be in courses numbered 300 and above, including the following:

- I. One course in the study of a major author, chosen from English 413, 421, 422, or 426.
- II. Three courses surveying periods of literature, including:
 - a. One course in English literature before 1750, chosen from English 312, 323, 324, 331.
 - b. One course in English literature after 1750, chosen from English 332, 341, 342, 352.
 - c. One course in American literature, chosen from English 361, 362, 363, 364.
- III. One course in the study of a genre, chosen from English 429, 430, 435, 436, 439, 440, 452, 455, 456, 457, 458, 459.

English concentrators may include Comparative Literature 201 and 202 in the first 36 credits of their concentration program.

Concentration courses are chosen in consultation with a departmental advisor on the basis of the student's preparation, background, vocational expectations, and educational interests. A sound concentration program should include, in addition to the requisite courses in English, a coherent pattern of complementary courses in other departments and allied fields chosen in consultation with the advisor. Concentrators normally begin their concentration programs with English 203 and 204.

A student who satisfies all requirements for concentration in English will also satisfy the Concentration Writing Requirement.

DESCRIPTION OF COURSES

COLLEGE COURSES

101. Writing. Fall and Spring (3) Staff.

Practice in writing under supervision, with frequent conferences. Required of freshmen who are not exempted by test scores or special examination. Each section is limited to fifteen students.

NOTE: Writing 101 is graded A, B, C, or R. (R—i.e., Repeat—will not appear on the student's permanent record). To receive credit, a) the student must receive a grade of C or better from his or her instructor, and b) one of the student's essays must receive a grade of C or better from another member of the writing faculty. If it does not, a subsequent paper must be evaluated as satisfactory by a third reader. The course will not appear on the student's permanent record until credit is received.

INTRODUCTORY COURSES

The following courses are especially designed for freshmen and sophomores. Upperclassmen may be admitted to 201, 202, 203, 204, 205, 207, and 208 only if space is available and upon consent of the Department Chair. This restriction, however, does not apply to English 210 and 211.

Most students—depending upon previous training—should take 201 before proceeding to other courses in literature.

201. The Art of Literature. (A) *Fall and Spring* (3) Staff.

An introductory course in critical reading and writing designed to increase the student's understanding and appreciation of the art of literature.

202. Critical Approaches to Literature. (A) *Fall and Spring* Mr. Wenska and Staff.

An introduction to critical approaches to literature, including traditional (historical/biographical, moral/philosophical), and formalist (new critical), psychological, and archetypal.

203. Major English Writers, Medieval and Renaissance. (A) *Fall and Spring* (3) Staff.

Study of the most important works and authors in English literature before 1700, including Chaucer, Shakespeare, and Milton, viewed in relation to the background of their time.

204. Major English Writers, Eighteenth and Nineteenth Centuries. (A) *Fall and Spring* (3) Staff.

Study of five or six major writers of English literature since 1700, chosen from such writers as Pope, Swift, and Fielding in the eighteenth century; Wordsworth, Coleridge, and Keats in the Romantic Period; Dickens, Browning, and Hardy in the Victorian Era.

205. An Introduction to Shakespeare. (A) *Fall and Spring* (3) Mr. Heacox and Staff.

A general introduction to Shakespeare's major poetry and plays. Students will read eight to ten plays, chosen to reflect the major periods in Shakespeare's dramatic development, and some poetry, especially the sonnets. (It is suggested that students have previously taken English 201, 203, or another 200-level course or have AP credit for 201.)

207. Major American Writers. (A) *Fall and Spring* (3) Staff.

Study of five or six American authors, emphasizing each writer's conception of his role in American society. One or more continuing themes may also be emphasized.

208. Contemporary Literature. (A) *Fall and Spring* (3) Staff.

Study of selected works of English, American, and European literature written from the 1950's to the present, with emphasis on important themes and the developing genres of fiction, drama, and poetry.

210. Study of Language (A) *Fall and Spring* (3) Ms. Reed and Staff.

An introduction to the goals, issues, and methods of grammar, both traditional and modern. Emphasis is divided between training in grammatical analysis and an examination of the important debates in the history of grammatical theory, including current debates on the innateness of language and its acquisition by children.

211. Study of Language. (A) *Fall and Spring* (3) Staff.

An introduction to the form and variation in human languages, particularly with regard to pronunciation and word-formation. Emphasis is divided between training in phonological and morphological analysis and examination of language variation, universals, and change. (Same as Anthropology 211.)

ADVANCED COURSES

Before enrolling for any of the following courses, the student should have satisfactor-

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ily completed at least one 200-level English course. NOTE: 300-level literature courses focus on historical periods, 400-level courses on genres and major authors; they do not differ in level of difficulty.

301. Advanced Writing. *Fall and Spring* (3) Staff.

Practice in writing papers of various types under supervision, emphasizing style and expository techniques. Sections limited to fifteen students each.

302. Language in America. (S) *Spring* (3) Mr. Ball.

A study of the origin, development, and present state of American English, including American Indian languages and other non-English influences, regional varieties, social dialects, and varieties of usage in contemporary America.

303. History of the English Language. (A,S) *Fall* (3) Staff.

A study of the history of the English language from Anglo-Saxon to the present. Some attention is given to American English and other variants.

304. Generative Syntax. (S) *Spring* (3) Ms. Reed.

This introduction to transformational-generative grammar investigates the structures and operations underlying sentences currently accepted by speakers of English. The course focuses on one linguistic model, with attention given to linguistic theory, alternative models, and issues in syntax and semantics.

***305. Creative Writing: Poetry.** *Fall and Spring* (3) Mr. Hart.

***306. Creative Writing: Fiction.** *Fall and Spring* (3) Mr. Jenkins.

An opportunity for the student to develop his abilities in imaginative writing of poetry or fiction under supervision. Sections limited to fifteen students each. *Prerequisite:* English 101 or exemption from the degree requirement in writing.

312. Medieval Literature. (S) *Spring* (3) Mr. Davidson.

A survey of selected major works and other representative examples of Old and Middle English literature, exclusive of Chaucer. The course explores the development of typical medieval attitudes and themes in a variety of literary forms and genres.

323. The English Renaissance. (S) *Fall* (3) Mr. Wiggins.

A survey of the poetry, prose, and drama of Tudor England, including selected works of More, Sidney, Spenser, Marlowe, and Shakespeare.

324. The Early Seventeenth Century. (S) *Spring* (3) Mr. Wiggins.

A survey of poetry, prose, and dramatic forms from John Donne and Ben Jonson to 1660, including early poems of Milton and Marvel.

331. English Literature, 1660-1744. (S) *Fall* (3) Mr. Maccubbin.

A survey including poetry, fiction, and drama. Some attention to arts related to literature. Emphasis on comedy and satire. Major figures studied include Dryden, Swift, Pope, Gay and Fielding.

332. English Literature, 1744-1798. (S) *Spring* (3) Mr. Maccubbin.

A survey including poetry, fiction, and drama. Special attention to the cultural milieu and the development of "sensitivity." Major figures studied include Johnson, Collins, Gray, Sheridan, Goldsmith, Sterne, Burns, and Blake.

341. The English Romantic Period. (S) *Fall* (3) Mr. Elliott.

A survey of the dominant ideas and conventions of romanticism as expressed primarily through the major poets and essayists of the period between 1798 and 1832.

342. The Victorian Age. (S) *Spring* (3) Mr. Meyers.

A survey of the major writers during the reign of Victoria. Emphasis is on the social and intellectual issues as expressed primarily by leading poets and essayists from Carlyle to Hardy.

352. Twentieth-Century British Literature. (S) *Fall and Spring* (3) Mr. Heacox, Mr. Jenkins and Ms. Morse.

A survey from the end of the Victorian era through the modernist period of the 1950's. Selected works by such writers as Conrad, Yeats, Joyce, Lawrence, Woolf, and Thomas are emphasized.

361. American Literature to 1836. (S) *Fall* (3) Mr. Wenska.

A survey to Cooper and Poe, emphasizing the cultural backgrounds of such writers as Bradstreet, Taylor, Franklin, and Edwards, and assessing the achievements of early novelists such as Foster, Rowson, Brown, and Brackenridge.

362. The American Renaissance. (S) *Fall and Spring* (3) Mr. Davis and Mr. Scholnick.

A survey of the mid-nineteenth century, emphasizing the writers of the Concord Group, Emerson, Hawthorne, Melville, Whitman, and Dickinson.

363. American Literature, 1865-1920. (S) *Fall and Spring* (3) Mr. Lowry, Ms. Nettels, and Mr. Scholnick.

A survey from the Gilded Age to the end of the First World War, emphasizing such writers as Mark Twain, Howells, James, Stephen Crane, Norris, Dreiser, and the Regionalists.

364. American Literature since 1920. (S) *Fall and Spring* (3) Ms. Donaldson, Ms. Hull, Mr. MacGowan, and Mr. Wenska.

A survey from the rise of the modernist poets and the Lost Generation to the present, emphasizing such writers as Pound, Eliot, Stevens, Hemingway, Fitzgerald, Faulkner, O'Connor, and Lowell.

***401, 402. Seminar in Creative Writing.** *Fall and Spring* (3, 3) Mr. Jenkins.

A workshop in writing narrative fiction, with emphasis on short fiction and the novella. Topics will include advanced characterization, scene depiction, and dialogue. Revision is emphasized. The course also surveys magazines and includes practice in criticism and editing, as well as visits by writers and editors. Students may enter either semester.

405. Descriptive Linguistics. (S) *Fall* (3) Ms. Reed.

A study of contemporary methods of linguistic analysis, with emphasis on data drawn from a wide variety of languages; in-depth analysis of a single language. Language universals, language types, and field methods are discussed. (Some as Anthropology 430.) Prerequisite: 211 or 304, or consent of instructor.

406. Social and Historical Linguistics. (S) *Spring* (3) Staff.

A study of language-change and language variation, with special attention paid to ways in which social variation in language influences the direction and progress of linguistic change. Some attention is also given to the development of pidgin and creole languages. (Some as Anthropology 440.) Prerequisite: 211 or 303 or consent of instructor.

***407. Seminar in Non-Fiction Writing.** *Spring* (3) Staff.

A seminar in writing the kinds of non-fiction that appear regularly in magazines and newspapers, with reading for emulation in Didion, McPhee, and others. Designed for students interested in writing careers. Prerequisite: any writing course beyond English 101 and consent of the instructor.

408. Theory of Literature. (S) *Fall* (3) Mr. Heacox.

A study of the major attempts to identify and define the nature of literature, our responses to it, and its relation to life and to the other arts. The emphasis will be on modern and contemporary literary theory, but with some concern for the historical tradition.

409. Old English. (S) *Fall* (3) Mr. Davidson.

An introduction to Old English, including elementary grammar and phonology and the reading of prose and short poems; collateral readings in the history and culture of the period.

410. Beowulf. (S) *Spring* (3) Mr. Davidson.

An intensive study of the text in Old English, with the aim of understanding *Beowulf* as a great work of literature. Emphasis is placed on the structure and the themes of the poem. Collateral readings in recent criticism. Prerequisite: English 409.

413. Chaucer. (S) *Fall* (3) Mr. Conlee.

A study of *The Canterbury Tales* and *Troilus and Criseyde* as expressions of Chaucer's

art. Emphasis is placed on the narrative and dramatic features of the poetry as vehicles for the presentation of medieval attitudes and themes.

421. Shakespeare. (S) *Fall* (3) Mr. Savage.

A study of the major history plays, including consideration of Renaissance political theory, and of the forms and conventions of Shakespearean comedy. Primarily lecture.

422. Shakespeare. (S) *Spring* (3) Mr. Fehrenbach.

A study of approximately twelve tragedies, with emphasis on Shakespeare's development as a verse dramatist. Special attention is given to the nature of tragedy. Primarily lecture.

426. Milton. (S) *Spring* (3) Mr. Savage.

A study of the major poetry and prose, with emphasis on *Paradise Lost* and the theological and literary traditions behind the poem. Lecture and discussion sections.

429. English Renaissance Drama. (S) *Fall* (3) Mr. Fehrenbach.

In this study of English Renaissance drama, some attention is also given to medieval pageants and plays, but the emphasis is on the dramatic literature written by Shakespeare's contemporaries, including Kyd, Marlowe, Jonson, Webster, Beaumont, and Fletcher.

430. Restoration and Eighteenth-Century Drama. (S) *Spring* (3) Staff.

A study of plays representing various genres and intellectual currents. Background readings in theatre design, acting styles, and production methods as well as social and intellectual history. Some playwrights included: Dryden, Otway, Wycherley, Congreve, Cibber, Vanbrugh, Gay, and Sheridan.

434. Arthurian Literature. (S) *Spring* (3) Mr. Jenkins.

A study of selected works from the Arthurian literary tradition. Major emphasis is upon works from the Medieval period (e.g. Geoffrey of Monmouth, Chretien de Troyes, and Malory), but some attention is also given to Arthurian literature in the nineteenth and twentieth centuries.

435. Epic and Romance. (S) *Spring* (3) Mr. Wiggins.

A study of the development of these major genres, with illustrative works drawn from ancient, Medieval and Renaissance, as well as English and Continental authors. (Same as *Comparative Literature* 302.)

436. The World Novel. (S) *Spring* (3) Mr. Fernandez.

A study of selected novels written mostly by authors who are not Anglo-American, with attention to the identity of the genre and its development from the seventeenth century to the present. Readings are by novelists such as Cervantes, Goethe, Balzac, Sartre, and Garcia Marquez. (Same as *Comparative Literature* 303.)

439. English Novel to 1832. (S) *Fall* (3) Mr. Ball.

The English novel through Jane Austen, with emphasis on the social, intellectual, and literary influences on its development and on Defoe, Richardson, Fielding, Sterne, and Austen as principal figures.

440. English Novel, 1832-1900. (S) *Spring* (3) Ms. Morse.

Novels by Charlotte and Emily Bronte, Thackeray, Dickens, Eliot, and Hardy are studied as primary examples of the nature and development of the English novel during the Victorian period.

452. Modern Fiction. (S) *Fall and Spring* (3) Ms. Donaldson and Ms. Altman.

Reading, analysis, and discussion of the principal American and British fiction writers from 1890 to the present, chosen to illustrate contemporary tendencies in matter and technique.

455. Topics in Major Genres. (S) *Fall or Spring* (3) Staff.

Focus on a major literary genre.

456. Modern Poetry to 1930. (S) *Fall* (3) Mr. Willis.

Development of modern British and American poetry from transitional poets Hopkins, Housman, and Hardy through the first generation modernist poets. Reading, interpretation, and discussion, with emphasis on Yeats, Pound, Eliot, Lawrence, Williams, and Stevens. (Not offered 1988-89).

457. Modern Poetry since 1930. (S) Fall (3) Mr. Hart.

Development of modern British and American poetry from second generation modernist poets through confessional and contemporary poets. Reading, interpretation, and discussion, with emphasis on Auden, Thomas, Roethke, Lowell, Plath, and Berryman.

458. Modern Drama to 1940. (S) Fall (3) Mr. Lappin.

Antecedents and development of modern English and American drama, with emphasis on the well-made play, naturalism, and hints of later trends: Ibsen, Chekhov, Strindberg, Shaw, Synge, O'Casey, Yeats, Eliot, Hellman, Odets, et al.

459. Modern Drama since 1940. (S) Spring (3) Mr. Lappin.

International dramatic forms and later development of English and American drama, with emphasis on naturalism, expressionism, epic theater, the absurd, and metatheater: Brecht, Ionesco, Beckett, Pinter, Shaffer, Leonard, Stoppard, O'Neill, Williams, Miller, Albee, Hansberry, Baraka, Wilson, et al.

460. Early Black American Literature. (S) Fall (3) Ms. Braxton.

This course studies Black American literature and thought from the colonial period through the era of Booker T. Washington. It will focus on the ways in which developing Afro-American literature met the challenges posed successively by slavery, abolition and emancipation.

461. Modern Black American Literature. (S) Spring (3) Ms. Braxton.

This course studies Afro-American literature from the Harlem Renaissance period of the 1920s through the contemporary writings of the 1980s. Issues addressed include the problem of patronage, the "black aesthetic," and the rise of black literary theory and "womanist" criticism.

464. Topics in Linguistics. (S) Spring (3) Staff.

Investigation of a major sub-field of linguistics. *Prerequisites:* Any one of 210, 211, or 304, or consent of instructor.

465. Special Topics in English. (S) Fall or Spring (3) Staff.

Exploration of a topic in literature or in the relations between literature and other disciplines.

***469, 470. Advanced Creative Writing.** Fall and Spring (3, 3) Writer-in-Residence.

An advanced course in creative writing for students of demonstrated promise and achievement.

***475. Seminar in English.** (S) Fall and Spring (3) Staff.

Study in depth of a specialized literary topic. Students write and present research papers for a critical discussion. Non-concentrators may enroll upon consent of the Department Chair. Strongly recommended for students who plan further formal literary study.

***480. Independent Study in English.** Fall or Spring (3) Staff.

A tutorial on a topic agreed upon by the student and instructor and approved in advance by the departmental Undergraduate Program Committee. Open only to concentrators who have completed at least half of the concentration requirements. Normally may be taken only once.

***481. Independent Study in Linguistics.** Fall or Spring (3) Staff.

A tutorial course on a topic agreed upon by the student and instructor and approved in advance by the departmental Undergraduate Program Committee.

HONORS STUDY

494. Junior Honors Seminar. Spring (3) Mr. Heacox.

Study in depth of a specialized literary topic, emphasizing student discussion and the preparation of critical papers. This course is restricted to concentrators planning to enroll in Senior Honors. Students are admitted by the departmental committee on Honors.

†495-496. Honors. Fall and Spring (3, 3) Staff.

Honors Study comprises (a) supervised reading in the field of the student's major interest; (b) presentation by April 15 of an Honors Essay upon a topic approved by the

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departmental Honors committee; and (c) oral examination in the field of the student's major interest. Students who have not completed 494 may be admitted only under exceptional circumstances.¹

GRADUATE PROGRAM

The department offers the degree of Master of Arts. For degree requirements and a full description of graduate courses in English, write to the Director, Graduate Study in English, for a graduate catalog.

Fine Arts

ASSOCIATE PROFESSOR COLEMAN (Chair). PROFESSORS CHAPPELL and KORNWOLF. ASSOCIATE PROFESSORS BARNES, HELFRICH, JACK, and WATKINSON. ASSISTANT PROFESSOR COHEN. INSTRUCTOR A. TURNER. LECTURERS HOOD, HOUGHLAND, JOHNSON, and SHEERAN. VISITING PROFESSOR CHRISTISON. ADJUNCT ASSISTANT PROFESSOR DYE. ADJUNCT LECTURERS, COLONIAL WILLIAMSBURG CURATORS.

There are two programs in the concentration of Fine Arts: Art and the History of Art. In each program, the student is required to complete F.A. 111, 112 and F.A. 201, 202. It is to the advantage of the student, particularly those concentrating in Art, to have completed these courses by the end of the sophomore year.

A wide variety of programs can be developed from the offerings of the Department to suit the individual needs of concentrators. Students in Fine Arts have developed careers in art, architecture, art history, museum work, teaching, and public communications. For purposes of double concentrating, art history and studio art combines well with history, anthropology, literature, comparative literature, music and music history, classical studies and philosophy, psychology, and the sciences to give a student a breadth of knowledge and experience in comparable methodologies that leads to mutually reinforcing insights in both concentrations. Students interested in secondary school teaching of art should elect the concentration in art. All members of the Department are ready to offer advice on career plans in Fine Arts.

The Department of Fine Arts offers certain special facilities and opportunities:

The Joseph and Margaret Muscarelle Museum of Art houses the College's art collection and sponsors changing exhibitions of works of art in the Museum plus the Fine Arts Department sponsors a series of exhibitions which are shown in galleries located in Andrews Hall.

The J. Binford Walford Scholarships are available for the study of architectural history and design. All students interested in such a study, including incoming freshmen, are eligible to apply. Information may be obtained from the Chair. Deadline for application is April 1.

Study possibilities exist with the art and architectural resources of the Colonial Williamsburg Foundation (See Fine Arts 457-458, and independent courses can be arranged).

A number of work possibilities exist through the Student Aid Program which affords students experience in assisting with the art, art history, and museum programs.

The Creative Arts House exists to provide a residential atmosphere for students concentrating or interested in the creative arts. It sponsors a variety of programs throughout the academic year.

Alumni Society Art Awards are given on the occasion of the annual Student Art Exhibition.

Workshops in various media, usually in connection with exhibitions and symposia, are offered annually.

The Fine Arts Society is the organization of students concentrating or interested in art and art history. It sponsors lecturers, exhibitions, excursions to museums, and the annual Beaux-arts Ball.

Students seriously interested in graduate or professional study in studio art are encouraged to contact the Chairman in order to determine whether they are eligible to enroll in 60 hours of Fine Arts courses. Deadline for proposals is February 1.

¹For college provisions governing the admission to honors, see page 51.

REQUIREMENTS FOR CONCENTRATION

The History of Art requirements are designed to give the student a satisfactory program having breadth, balance, and variety. Students concentrating in the History of Art are required to take F.A. 111, 112 and F.A. 201, 202. In addition to these twelve hours, the student must choose six hours in each of the following three fields:

A. Medieval and Oriental Art and Architecture (Fine Arts 403, 404, 409, 410, 411, and 412).

B. Renaissance and Baroque Art and Architecture (Fine Arts 405, 406, 453, 454).

C. Modern Art and Architecture (Fine Arts 307, 308, 350, 402).

An additional six hours must be taken in art history courses of the student's choice.

The Art program is designed to offer the concentrator a variety of courses and the opportunity to work in depth at an advanced level. Concentrators in Art are required to take F.A. 111, 112, F.A. 201, 202; eighteen additional studio credits, of which at least six credits must be at the 400 level; and six additional credits in the History of Art. If a student is exempted from taking Fine Arts 111 or 112, the student is expected to substitute a logical upper level course in its place, thereby completing a minimum of 24 hours of studio credits toward the concentration.

All concentrators in Art are required to participate in the Senior Student Exhibition at the end of the academic year and need to notify the Chairman of their intent to do so.

A student concentrating in Art or Art History may satisfy the Concentration Writing Requirement by passing any two of the following courses with a grade of C or better: Fine Arts 307, 308, 402, 403, 404, 405, 406, 409, 410, 411, 451, 452, 453, 454, 495, and 496. Fine Arts 460 may be included on this list if approved by the Chair of the Department of Fine Arts.

THE MINOR IN FINE ARTS

A minor in Fine Arts requires 21 credits in departmental courses and can be achieved by following one of the three following programs:

Studio Art. F.A. 111, 112 plus five 300 or 400 level courses in studio art.

Art History. F.A. 201, 202 plus five 300 or 400 level courses in art history.

Fine Arts. F.A. 111, 112, 201, 202 plus three 300 or 400 level courses in Fine Arts in any combination of art, art history, or both.

AREA AND SEQUENCE REQUIREMENTS

Area I in Art may be satisfied by Fine Arts 111 and 112. A sequence in Art may be satisfied by any two of the following courses in two-dimensional Art: Fine Arts 309, 310, 311, 312, 315, 316, 323, 324, or by any two of the following three-dimensional Art courses: Fine Arts 313, 314, 317, 318, 319, 320, 321, 322.

Area I in Art History may be satisfied by taking two courses of the following: Fine Arts 201, 202, 150, and 100. Only one 100 level course may be applied toward satisfying the area or sequence requirement. A sequence in Art History may be satisfied by any two of the following courses: Fine Arts 307, 308, 350, 402, 403, 404, 405, 406, 409, 410, 411, 451, 452, 453, 454, 457, 458.

ART HISTORY

100. Introduction to Art History: Materials and Techniques. (A) Spring (3) Mr. Chappell. Open only to freshmen.

This is a history of art course that surveys the materials and methods used in art, their possibilities, their limitations, and their uses by artists and architects from all periods and countries.

150. An Introduction to Fine Arts. (A) Fall (3) Staff.

An introduction to art and architecture through discussions of media, techniques, artists, and art criticism.

201. Survey of the History of Art I. (A) Fall and Spring (3) Ms. Watkinson and Mr. Kornwolf.

The study of Ancient and Medieval Art. Illustrated lectures and readings.

202. Survey of the History of Art II. (A) *Fall and Spring* (3) Mr. Chappell and Ms. Watkinson.

The study of European and American Art from the Renaissance to the present. Illustrated lectures and readings. May be taken singly and before F.A. 201.

307. Modern Art I. (S) *Fall* (3) Mr. Kornwolf.

History of earlier Modern Art, c. 1780-1880, in Great Britain, France, Germany, and the United States. Emphasis is placed on the influence of the cultural, social, and industrial revolutions on the major movements of the period—Romanticism and Realism.

308. Modern Art II. (S) *Spring* (3) Mr. Kornwolf.

A History of later Modern Art, c. 1880-1970, in Europe and the United States. The continuing influence of the cultural, social, and industrial revolutions on the major movements of the period is given emphasis—the origins of Modernism, its emergence c. 1905-1914; and its demise since 1960.

350. Contemporary Art/Art Criticism. *Fall* (3) Staff.

An examination of the images, ideas, and critical analyses of modern works of visual art produced in Western Europe and the United States since 1960. Possible field trip.

402. Modern Architecture and Town Planning. (S) *Fall* (3) Mr. Kornwolf.

A History of Modern Architecture and Town Planning from 1780 to the present in Europe and the United States. Emphasis is placed on the influence of the cultural, social, and industrial revolutions on the major modern movements from Romanticism to the crisis of Modernism.

403. Early Medieval Art. (S) *Fall* (3) Ms. Watkinson.

A study of the emergence of Medieval Architecture, Sculpture and Painting in Europe from ca. 450 A.D. to 1100 A.D., concentrating on Barbarian, Carolingian and Early Romanesque Art.

404. Late Medieval Art. (S) *Spring* (3) Ms. Watkinson.

The development of High Gothic Art from Romanesque antecedents and its relation to more mature styles of the Middle Ages emphasized.

405. Renaissance and Baroque Architecture and Town Planning. (S) (3) Mr. Kornwolf.

A History of Architecture and Town Planning in Italy, France, England, Germany, and Spain from c. 1420 to c. 1780. The various architectural interpretations of Classicism and Humanism in each period are given emphasis.

406. Italian Renaissance Art, 1250-1600. (S) *Fall* (3) Mr. Chappell.

The development of the Renaissance in painting and sculpture; its beginnings with Giotto; its flowering with Donatello, Brunelleschi, Ghiberti, and Masaccio; the High Renaissance of Leonardo, Michelangelo, Raphael, Correggio, and Titian; and Mannerism. Possible field trip.

409. Asian Art, India. (S) (3) Mr. Dye.

A study of the artistic, cultural and religious background of India with a special emphasis on the 12th through 18th centuries when the subcontinent was under Muslim rule.

410. Asian Art, China. (S) *Fall* (3) Mr. Dye.

A study of the Art and Architecture of China.

411. Asian Art, Japan. (S) *Spring* (3) Mr. Dye.

A study of the Art and Architecture of Japan.

412. Early Christian and Byzantine Art. (S) *Fall* (3) Ms. Watkinson.

The study of the formation of Christian Art beginning in the second century A.D. and the persistence and elaboration of these themes and styles in the Byzantine Empire until 1452 A.D.

451. Colonial American Architecture and Town Planning. (S) *Spring* (3) Mr. Kornwolf. Prerequisites: 201, 202, or 405.

A History of Architecture and town planning in the English, Dutch, French, and Spanish colonies north of the Rio Grande from 1580 to 1790 and the founding of Washington, D.C.

452. British Painting, 16th to 18th Centuries and Colonial-American Painting. (S) Alternating years (3) Mr. Chappell.

American Painting from Colonial to Federal Periods; European influences, with emphasis on British art; and the development of an American artistic tradition; artists such as Smibert, Feke, Wollaston, West, Copley, Peale, Trumbull, and Stuart. College and Colonial Williamsburg collections are resources.

453. Northern Renaissance Painting and Sculpture, 1350-1600. (S) Fall (3) Mr. Chappell.

The study of the Renaissance, Mannerism, and indigenous artistic traditions in the Netherlands, France, Germany, and Spain; artists such as Jan van Eyck, Sluter, Roger van der Weyden, Durer, Grunewald, Breughel, and El Greco. The development of categories such as the portrait, genre scene, the Renaissance tomb. Possible field trip.

454. Baroque Art. (S) Spring (3) Mr. Chappell.

A survey of European painting, sculpture, and printmaking from 1600-1750. The Baroque is traced from its emergence as a reaction to Mannerism through its different developments to the Rococo; emphasis on Caravaggio, Bernini, Rubens, Rembrandt, Hals, Vermeer, and Velasquez. Possible field trip.

455. The History of the Graphic Arts: Drawing and Printmaking, 14th to the 20 Centuries. (S) Alternating years (3) Mr. Chappell.

A course designed to introduce the students to materials, the techniques, the personalities and the history of printmaking and drawing.

456. Historic Preservation. (3) Ms. Watkinson.

A study of approaches to historic preservation, including theoretical, historiographic, and practical applications.

457-458. Eighteenth Century Decorative Arts in Britain and America. Fall and Spring (3, 3) Mr. Hood.

A course taught by the Colonial Williamsburg curators using the collection of 17th and 18th-century British and American antiques in the exhibition buildings and the Wallace Gallery. Prerequisite: 201 and 202. Recommended F.A. 451 or F.A. 452 and permission of the chairman. Two hours lecture, two hours laboratory.

***460-04. Independent Study—Medieval.** (3) Ms. Watkinson.

***460-05. Independent Study—Renaissance.** (3) Mr. Chappell.

***460-06. Independent Study—Modern.** (3) Mr. Kornwolf.

***460-07. Independent Study—Asian.** (3) Mr. Dye.

460-09. Research Problems in the History of Art. (3) Staff.

Study in depth of a selected topic. May be taken as independent study. May also be offered, on occasion, as a seminar devoted to an aspect of the history of art. Prerequisites: Fine Arts 201, 202, and four additional courses in the History of Art.

461. Methods of Art History. (3) Ms. Watkinson.

A survey of the methodological approaches to the study of the history of art, including a study of the historiography of the discipline.

***462-463. Introduction to Art Museology: A Survey.** Fall and Spring Ms. Christison.

The history of collecting, the development of the art museum, the purpose, mandate, and variety of public and private art institutions, and their means of support for capital outlay, maintenance, operation, and art acquisition; the governance and administration of art institutions and their curatorial and educational roles. Prerequisites: Fine Arts 201, 202.

464. Museum Internship. (3) Mr. Johnson.

A continuation of F.A. 462 and 463. A laboratory and discussion course working with the resources of the Muscarelle Museum of Art. Prerequisites: F.A. 462 and 463. Six laboratory hours.

495-496. Senior Honors in Fine Arts. *Fall and Spring* (3, 3) Staff.

Independent study for Honors in the History of Art or in Studio Art. Application information available from the Chair.¹

ART

111. Two-Dimensional Foundations. (A) *Fall and Spring* (3) Mr. Barnes, Mr. Coleman, Mr. Helfrich, and Ms. Turner.

Introduction to visual expressive concerns through lectures and projects in drawing, color and design as they function two-dimensionally.

112. Three-Dimensional Foundations. (A) *Fall and Spring* (3) Ms. Jack, Mr. Cohen, and Ms. Turner.

Creative problem solving in a variety of media dealing with the elements of three-dimensional form (line, surface, volume, mass, color, light and space) and exploring concepts of image, message, process, style, and expression. Possible field trip. Six studio hours. May be taken before F.A. 111.

309. Life Drawing I. (S) *Fall and Spring* (3) Mr. Barnes, Mr. Helfrich.

Exploration of various drawing concepts using the human figure. *Prerequisites:* F.A. 111, 112. Six studio hours.

310. Life Drawing II. (S) *Fall and Spring* (3) Mr. Barnes, Mr. Helfrich.

Continuation of F.A. 309. Six studio hours.

311. Drawing. (S) *Fall* (3) Mr. Coleman or Mr. Helfrich.

The problems of visual understanding and expression in drawing using pencil and charcoal and dealing with line, value, proportion, and perspective mainly through the study of set ups. *Prerequisite:* F.A. 111 or consent of the instructor. Six studio hours.

312. Watercolor. (S) *Fall and Spring* (3) Mr. Coleman.

A course exploring the varied possibilities of watercolor as an expressive medium. *Prerequisite:* F.A. 111 or consent of the instructor. Six studio hours.

313. Architectural Design I. (S) *Fall* (3) Mr. Houghland.

The Discovery of Architecture through Design with emphasis on basic design vocabulary: Drafting, Perspective, Shades and Shadows, Scale, and Proportion. *Prerequisite:* 111, 112, or consent of the instructor. Six studio hours.

314. Architectural Design II. (S) *Spring* (3) Mr. Houghland.

The investigation of the role of architect with specific design problems, and the development of presentation techniques. *Prerequisite:* 313. Six studio hours.

315. Painting I. (S) *Fall and Spring* (3) Mr. Barnes.

The course examines through paint the relational and emotive forces that constitute the language of visual expression. Emphasis is placed on widening the range of visual awareness through a response while absorbed in the character and reality of experiences. *Prerequisites:* F.A. 111, 112 or consent of the instructor. Six studio hours.

316. Painting II. (S) *Fall and Spring* (3) Mr. Barnes.

A continuation of painting problems experienced in F.A. 315, stressing the development of a personal response to the nature of things. *Prerequisites:* F.A. 315, or consent of the instructor. Six studio hours.

317. Sculpture I. (S) *Fall and Spring* (3) Mr. Cohen.

An introduction to basic concepts and processes of sculpture, to include instruction in clay modeling, direct building in plaster, heat forming and construction in plastics, introductory metal fabrication, and woodworking, with an emphasis on expression and experimentation. Possible field trip. *Prerequisite:* F.A. 111, 112 or consent of the instructor. Six studio hours.

¹For college provisions governing the admission to honors, see page 51.

318. Sculpture II. (S) *Fall and Spring* (3) Mr. Cohen.

Continuation of F.A. 317. Further investigation of techniques presented in F.A. 317, and an introduction to foundry practices and bronze casting. Emphasis on the production of finished works of art. Possible field trip. *Prerequisite:* F.A. 317 or consent of the instructor. Six studio hours.

319. Life Modeling I. (S) *Fall and Spring* (3) Staff.

A study of the human figure in three dimensions. Figures are modeled directly from life in clay, plaster, and wax. Study is made of human anatomy and armature building. *Prerequisite:* F.A. 112. Six studio hours.

320. Life Modeling II. (S) *Fall and Spring* (3) Staff.

A continuation of F.A. 319. Six studio hours.

321. Beginning Ceramics. (S) *Fall and Spring* (3) Ms. Jack.

Basic principles of working with clay. Problems in handbuilding and wheel-throwing methods are used to introduce a variety of approaches to the medium. Methods of glazing and various firing processes are also introduced. *Prerequisite:* F.A. 112 or consent of the instructor. Six studio hours.

322. Intermediate Ceramics. (S) *Fall and Spring* (3) Ms. Jack.

A continuation of problems in handbuilding and wheel-throwing designed to refine skills as a way of developing visual ideas and images. Participation in various firing processes including raku techniques. *Prerequisite:* F.A. 321 or consent of the instructor. Six studio hours.

323. Printmaking: Intaglio. (S) *Fall* (3) Mr. Helfrich.

Exploration of visual concepts through line etch, drypoint and acquaint. *Prerequisites:* F.A. 111, 112 or consent of the instructor. Six studio hours.

324. Printmaking: Lithography. (S) *Spring* (3) Mr. Helfrich.

Exploration of visual concepts through crayon and tusche on aluminum lithographic plates. *Prerequisites:* F.A. 323 or consent of the instructor. Six studio hours.

330. Art for Teachers. *Fall and Spring* (3) Ms. Sirlin. Open to Education majors (concentrators in Fine Arts should take this course as Education 330).

A study of the development of artistic expression in children, together with a hands-on investigation of the materials and methods of art-making best suited to the elementary and secondary school student. In addition, exposure to selected works of art throughout history, to help the new teacher develop a philosophy of what art is and how it functions in our own culture. *Two hours lecture; two hours studio.*

441. Advanced Studio I. *Fall* (3) Staff.

Advanced work in all media. May be repeated. *Prerequisite:* Two 300 courses in one media or consent of the instructor. Six studio hours.

442. Advanced Studio II. *Spring* (3) Staff.

Advanced work in all media. *Prerequisite:* 441 or consent of the instructor. May be repeated. Six studio hours.

All work produced by the students of the studio classes remains the property of the College of William and Mary until released by the appropriate faculty member in charge. The College will not be responsible for theft or damage to such works.

Geology

PROFESSORS BICK (Chair), CLEMENT, GOODWIN, and JOHNSON. ASSISTANT PROFESSOR MACDONALD.

The program of the Department of Geology is designed to provide each concentrator with a strong, broad background in geology and yet is sufficiently flexible to allow students freedom to follow their own interests. Ample opportunity is available for independent student research and such research is an integral part of the department's curriculum.

GEOLOGY

The geologic setting of Williamsburg enhances the program in geology and offers a wide variety of areas for field studies. Situated on the Coastal Plain with its excellent exposures of sediments and fossils, the College is only fifty miles from the fall line beyond which occur igneous and metamorphic rocks of the Piedmont. The Blue Ridge and Valley and Ridge areas are within a three hour drive. Thus the field study area includes all major rock types and representatives of most geologic periods from Precambrian rocks to modern sediments.

REQUIREMENTS FOR CONCENTRATION

A concentration in geology requires forty-one credits distributed as follows:

1. A core of nine required semester courses totalling 35 hours, which are Geology 101, 102, 201, 202, 301, 302, 401, 402 and either 406 or 496.
2. Two additional courses totalling six hours elected from among Geology 303, 304, 306, 309, 403, 405, 407, 408.

Geology courses which will not be counted toward the concentration are Geology 110, 305, 308, 310, 495.

Chemistry 103, 151, 305 and 354 are required for a concentration in geology.

It is recommended that a student who wishes to pursue geology at the professional level take the following courses: Geology 403, Mathematics 111, 112, Computer Science 141 and Physics 101, 102. Graduate schools usually require a reading knowledge of French, German or Russian for studies leading to the doctoral degree.

The Concentration Writing Requirement in the Department of Geology will be satisfied by the paper in Senior Research (Geology 406) or by the Honors thesis (Geology 496). A separate grade for writing, which must be a C or better in order to satisfy the writing requirement, will be awarded in each course.

REQUIREMENTS FOR MINOR

A minor in geology requires 6 courses distributed as follows:

1. Geology 101, 102, 201
2. One of Geology 202, 301, 302, 401
3. Two of Geology 303, 304, 305, 306, 308, 309, 403, 405, 407, 408

A course from group 2 may be substituted for one in group 3.

DESCRIPTION OF COURSES

101. Physical Geology. (A,L) *Fall or Spring* (4) Mr. Goodwin and Ms. Macdonald.

The study of the structure and composition of the earth and the processes and agents that modify it. Required field trips. Limited to freshmen and sophomores except by permission of the Chair. *Three class hours, three laboratory hours.*

102. Historical Geology. (A,L) *Spring* (4) Ms. Macdonald. *Prerequisite:* Geology 101.

The study of the history of the earth and the development of life through time. Required field trips. *Three class hours, three laboratory hours.*

110. Physical Geography. (A) *Spring* (3) Mr. Bick.

An introduction to energy balance, atmospheric and oceanic circulation, weather elements, climates and landscapes.

150. Freshman Colloquium. (A) *Fall or Spring* (3) Staff.

Various special topics in geology.

201. Mineralogy. (S) *Fall* (4) Mr. Clement. *Prerequisite:* Geology 101 or permission of the instructor.

An introduction to crystal chemistry and crystallography. Identification of common minerals by their physical properties. Introduction to x-ray diffraction and petrographic techniques. *Three class hours, three laboratory hours.*

202. Igneous and Metamorphic Petrology. (S) *Spring* (4) Mr. Clement. *Prerequisite:* Geology 201.

Mineral and rock genesis in the igneous and metamorphic environments. A study of hand specimens and thin sections, structures, textures, and areal distribution. Field trips. *Three class hours, three laboratory hours.*

301. Sedimentology. (S) Fall (4) Ms. Macdonald. Prerequisite: Geology 102 and 201 or permission of the instructor.

The origin and interpretation of sediments and sedimentary rocks. Identification, classification and depositional environments are emphasized. Field trips. Three class hours, three laboratory hours.

302. Paleontology. (S) Spring (4) Mr. Johnson. Prerequisite: Geology 301 and 102 or permission of the instructor.

The taxonomy of fossil organisms and the role of fossils in the study of organic evolution and the time relations of rock sequences. The laboratory stresses invertebrate morphology and quantitative measurement of local marine fossils. Field trips. Three class hours, three laboratory hours.

303. Geology of the United States. (S) Fall (3) Mr. Bick. Prerequisite: Geology 101.

Descriptive treatment of the major aspects of the geology of the physiographic regions of the conterminous United States. Major emphasis is on the stratigraphy, structure, and development of each region. (Not offered 1988-89).

304. Geomorphology. (S) Spring (3) Mr. Johnson. Prerequisite: Geology 101.

The study of landforms, their genesis and their change through time. Various types of maps and aerial photographs are utilized. Field trips required. (Not offered 1989-90).

305. Environmental Geology. (A/S) Fall (3) Mr. Johnson. Prerequisite: Geology 101.

An introduction to the causes and extent of air and water pollution, and to methods of preventing, reducing, or eliminating problems relating to ground and surface water, air, and solid waste. Field trip required.

306. Marine Geology. (S) Spring (3) Ms. Macdonald. Prerequisite: Geology 101.

The physical geology of the continental margins and ocean basins. Evolution of the ocean basins, oceanic circulation patterns, marine environments and the impact of man are stressed. (Not offered 1989-90.)

308. Economic Geology. (A/S) Spring (3) Mr. Goodwin and Mr. Clement. Prerequisite: Geology 101.

The origin, distribution, production, utilization and economics of metallic and non-metallic mineral resources.

309. Contemporary Geology: A Global Approach. (A/S) Fall (3) Mr. Bick. Prerequisite: Geology 101.

Major geological and geophysical aspects of the contemporary earth and their relationship to plate tectonics.

310. Regional Field Geology. Summer (3) Staff. Prerequisite: Geology 102 or permission of instructor.

Field techniques and their application in the study of the geology and geologic history of selected regions. Three-week major field trip.

401. Structural Geology. (S) Fall (4) Mr. Goodwin. Prerequisite: Geology 301 or permission of instructor.

Theoretical, experimental, and field study of deforming forces and their effects on earth materials. Field trips. Three class hours, three laboratory hours.

402. Stratigraphy. (S) Spring (4) Mr. Bick. Prerequisite: Geology 401 or permission of instructor.

The principles of the use of layered rocks in the organization, interpretation and synthesis of the geologic record. Three class hours, three laboratory hours.

403. Quantitative Geologic Models. (S) Fall (3) Mr. Bick.

The probabilistic basis of geologic processes and its application to geologic hypotheses through quantitative testing of conceptual models. (Not offered 1989-90.)

405. Petrography. (S) Fall (3) Mr. Clement. Prerequisite: Geology 202.

Introduction to mineral optics and the theory and use of the polarizing microscope. Two class hours, three laboratory hours.

GOVERNMENT

406. Senior Research. *Fall or Spring* (3) Staff. Prerequisite: permission of research advisor.

Independent study throughout the senior year culminating in a written report. The student may register for either the fall or spring semester.

***407. Special Topics in Geology.** *Spring* (3) Staff. Prerequisite: Permission of instructor.

Advanced study of topics not routinely covered by existing courses. Subject, prerequisites and instructor will vary from year to year.

408. Hydrogeology. (S) *Spring* (3) Mr. Johnson. Prerequisite: *Geology 301* or permission of instructor.

The principles of groundwater hydrology and the study of sources, occurrence, quality and movement of groundwater. Field trips required. (Not offered 1988-89).

495-496. Honors. *Fall and Spring* (3, 3) Staff.

The requirements of Honors study in Geology include a program of research accompanied by readings from the original literature, the satisfactory completion of a comprehensive examination in Geology, and the preparation and presentation of an Honors Essay based on the student's reading and research. Hours to be arranged.¹

Geography

Those interested in geography can prepare themselves for further study in the field by selecting suitable courses from among the following while concentrating in a discipline allied to geography:

Physical Geography

Geology 110—Physical Geography

Geology 305—Environmental Geology

Economic Geography

Anthropology 304—Primitive Economic Systems

Geology 308—Economic Geology

Human Geography

Anthropology 202—Cultural Anthropology

Anthropology 314—Indians of North America

Anthropology 364—Tropical Ecology

Sociology 349—Human Geography

Regional Geography

Anthropology 323—Native Cultures of Latin America

Anthropology 330—Peoples and Cultures of the Caribbean

Anthropology 331—Peoples and Cultures of Africa

Anthropology 340—Peoples and Cultures of Insular Southeast Asia

Anthropology 342—Peoples and Cultures of Mainland Southeast Asia

Anthropology 344—Peoples and Cultures of Oceania

Government

PROFESSORS WARD (Chair), BILL², EDWARDS, GRAYSON³, KIM, MASTRO⁴, MORROW, SMITH and VERKUIL. ASSOCIATE PROFESSORS BAXTER, McCAIN, McGLENNON, RAPOPORT, and SCHWARTZ. ASSISTANT PROFESSORS BROWN, CLEMENS, DESSLER, and EVANS. INSTRUCTOR KELLY.

THE GOVERNMENT PROGRAM

The Department of Government provides students with opportunities to investigate political phenomena ranging from the behavior of the individual citizen to relations

¹For college provisions governing the admission to honors, see page 51.

²Class of 1935 Professor of Government and Director of the Wendy and Emery Reves Center for International Studies.

³Class of 1938 Professor of Government.

⁴Adjunct Professor, 1988-89.

among states in the international arena. The program seeks to develop awareness of the moral and ethical implications of political action as well as understanding of political institutions and processes from an empirical perspective.

The Department maintains a strong commitment to the development of students' writing abilities. Most 300-level courses in the Department require one or more papers. The 400-level seminars require a major paper based on independent student research. (A grade of C or better in any 400 level seminar satisfies the writing requirement.)

A concentration in Government consists of 36 semester credits including the following:

- Government 201 (American Politics) and 323 (International Politics) and one course from each of these areas:
- Political Philosophy (202, 303, 304, 305,)
- Comparative government and politics (203, 311, 312, 334, 335, 336, 337, 338, 339)
- One course at the 400 level
- Economics 101-102
- 24 credits in courses numbered above 300.

Depending on the topic offered, Government 391, Topics in Government, may be used to satisfy either the Political Philosophy or Comparative Government and Politics requirements.

It is recommended that concentrators carry their foreign language study beyond the minimum requirements for distribution. Those interested in the systematic analysis of data should consider courses in statistics as well as Government 307.

A minor in Government requires 21 semester credits in Government, including no more than two courses numbered below 300. This must include courses in three of the following areas: (1) political philosophy, (2) comparative government and politics, (3) international politics, and (4) American government and public administration.

Students are admitted to honors in Government with the permission of the Department Chair.

201. Introduction to American Government and Politics. (A) *Fall and Spring* (3) Staff.
An introduction to the American political system, its institutions and processes.

202. Introduction to Political Philosophy. (A) *Fall and Spring* (3) Staff.

An introduction to political philosophy focusing on ideas such as freedom, authority, power, community, rights and leadership.

203. Introduction to Comparative Politics. (A) *Fall and Spring* (3) Staff.

An introduction to the comparative analysis of political systems. Attention will focus on political processes, such as political socialization, participation, and elite recruitment, and on political institutions, such as party systems, legislatures, and bureaucracies. Examples will be drawn from Communist and developing systems, as well as from the more familiar Western countries.

303, 304. Survey of Political Philosophy. (A,S) *Fall and Spring* (3, 3) Mr. Smith and Mr. Schwartz.

The course is developed around two themes, the classical tradition and the modern tradition in political philosophy. In the first semester the political works of Plato and Aristotle are taken as the standards of the classical tradition. Selected works of medieval Christian writers are also included. Machiavelli and Hobbes define the modern tradition as this is taken up in the second semester. The works of Locke, Rousseau, and Burke complete the course.

305. Contemporary Political Philosophy. (A,S) *Fall or Spring* (3) Mr. Smith.

An examination of various approaches to political philosophy from the late nineteenth century to the present.

306. Political Parties. (A,S) *Fall or Spring* (3) Staff.

An examination of the electoral, organizational, and governmental activities of political parties in the American context. Emphasis will be placed on the decline of parties and the consequences of this decline for American democracy.

307. Political Polling and Survey Analysis. *Fall* (3) Mr. Rapoport.

GOVERNMENT

An introduction to the formulation, implementation and analysis of political surveys. Topics to be covered include sampling, question bias, interviewing, hypothesis testing and data analysis. Much of the course will revolve around a survey of the William and Mary student body, designed and carried out by the class.

311. European Political Systems. (A,S) *Fall* (3) Mr. Clemens.

A comparative study of institutions and processes of government in several Western European nations. Historical, cultural, social and economic factors will be given considerable attention.

312. Politics of Developing Countries. (A,S) *Spring* (3) Mr. Baxter.

A comparative study of institutions and processes of government in several non-western countries. The cultural and historical foundations of government, and the economic circumstances of third world nations will be emphasized.

323. Introduction to International Politics. (A) *Fall and Spring* (3) Staff.

A study of the theory and practice of international politics. The course will consider the international system of states and the bases of national power.

324. U.S. Foreign Policy. (A,S) *Fall or Spring* (3) Mr. Ward and Mr. Clemens. *Prerequisite:* Government 323.

A study of American foreign policy with emphasis on the process of policy formulation. Selected foreign policy problems will be considered.

325. International Organization. (A,S) *Fall* (3) Mr. Kim and Mr. Brown. *Prerequisite:* Government 323.

A study of the development of structures and procedures of international organization, and of methods of pacific settlement of international disputes. Special attention will be given the League of Nations and the United Nations and the successes and failures of these organizations.

326. International Law. (A,S) *Spring* (3) Mr. Kim and Mr. Brown. *Prerequisite:* Government 323.

A study of international law governing relations among nation-states in peace and war. Considered are the nature and development of international law, and the relevance of international law to contemporary issues such as recognition, intervention, human rights, diplomatic privileges and immunities, use of force, terrorism, environmental problems, and international adjudication.

327. Africa in International Relations. (A,S) *Fall or Spring* (3) Mr. Ayisi. *Prerequisite:* Government 323.

A survey of the factors influencing the foreign policies of African states. Topics will include the non-alignment concept, inter-state conflict and cooperation, Pan-Africanism, and regional integration.

328. International Political Economy. (A,S) *Spring* (3) Mr. Dessler.

An analysis of the politics and economics of a selected international policy problem or issue, e.g., international trade and protectionism; the domestic management of inflation and unemployment; the relation between economic organization and political power.

334. Soviet Political System. (A,S) *Fall* (3) Mr. McCain.

A study of the Soviet political system with emphasis on its structures and institutions and on the changes which have taken place since Stalin's death. Current policies, foreign relations, and the dissent movement will also be considered.

335. Comparative Communist Systems. (A,S) *Spring* (3) Mr. McCain. *Prerequisite:* Government 334 or consent of instructor.

A comparative analysis of politics and ideologies in the Asian, Eastern European, Soviet, and Cuban models of Communism. The conditions under which Communism comes to power and various possible future lines of development in Communist systems will be examined.

336. Governments and Politics of China and Japan. (A,S) *Fall* (3) Mr. Kim.

A study of political institutions and political behavior in China and Japan. Emphasis will be placed on dynamic factors of socio-economic and political development in both countries.

337. Politics in Africa. (A,S) *Fall or Spring* (3) Mr. Ayisi.

A study of selected nations of Africa south of the Sahara. Emphasis will be placed on phenomena such as the rise of nationalism, the development of African party and governmental systems, and the role of Africa in international politics.

338. Latin American Politics and Government. (A,S) *Fall or Spring* (3) Mr. Grayson.

A comparative analysis of the types of government of selected Latin American nations. Appropriate consideration will be given to current conditions and to such problems of general political development as recruitment and socialization, communication and articulation, interest aggregation and decision-making.

339. Middle Eastern Political Systems. (A, S) *Fall and Spring* (3) Mr. Bill.

An analysis of power, authority and change in the Middle East, defined as the Arab world plus Turkey, Iran, Afghanistan, Pakistan, and Israel. Emphasis is placed upon development, Islam, social stratification, violence and foreign policy.

350. Introduction to Public Policy. (A, S) *Fall or Spring* (3) Mr. Evans and Mr. Morrow.

An introductory examination of the dynamics of policy making processes at the national level of government, focusing on the effect of government institutions on policy making and policy implementation in the context of national policy issues.

351. Introduction to Public Administration. (A,S) *Fall or Spring* (3) Mr. Morrow.

An analysis of behavior and decision-making in public administrative agencies. Emphasis will be placed upon the relationship of the administrative process to organizational structure, policies, and the social environment.

353. The Politics of States and Localities. (A,S) *Spring* (3) Mr. McGlennon.

An examination of the institutions and processes of government and politics in American states and localities. Relationships among national, state, and local governments will be analyzed in the context of a federal system.

355. Southern Politics. (A,S) *Spring* (3) Mr. McGlennon.

An examination of the influence of historic and demographic trends on contemporary Southern politics. Special attention will be paid to the political distinctiveness of the South, political variations among the southern states, and the relationships between Southern and national politics.

370. The Legislative Process. (A,S) *Fall* (3) Staff.

An investigation of the legislative process in the United States with emphasis on the United States' Congress. Internal and external forces influencing legislative behavior will be examined.

371. The Presidency. (A,S) *Fall* (3) Mr. Morrow.

An examination of the politics and policy influence of the American presidency and other executives. Emphasis will be placed upon the legal and political forces which determine and limit the use of executive power.

372. The Judicial Process. (A,S) *Spring* (3) Mr. Edwards.

An analysis of the organization and processes of judicial decision-making in the United States, with special emphasis on the U.S. Supreme Court.

373. American Civil Liberties. (A,S) *Fall or Spring* (3) Staff.

An intensive study of the rights of Americans as guaranteed by the Constitution. The changing character of civil liberties problems in the United States will be stressed with attention given to the legal, historical and political context of the cases studies. Class discussion and reports will be emphasized.

374. The Mass Media, Public Opinion, and American Political Behavior. (A,S) *Fall or Spring* (3) Mr. Rapoport.

A survey of the processes through which political communications are transmitted and received in the American political system. The impact of newspapers, television, campaign advertising, and other forms of political persuasion will be examined, as well as other influences on public opinion and political behavior.

GOVERNMENT

390. Topics in Government. *Fall or Spring* (1) Staff.

Selected topics in Government. The topic to be considered will be announced prior to the beginning of the semester.

391. Topics in Government. (A,S) *Fall or Spring* (3) Staff.

Selected topics in Government. The topic to be considered will be announced prior to the beginning of the semester.

401. American Political Thought. (S) *Fall* (3) Mr. Smith.

Basic problems of political theory will be viewed from the perspective of the American experience.

405. Studies in Political Philosophy: Themes and Problems. (S) *Fall or Spring* (3) Mr. Smith and Mr. Schwartz.

An examination of a particular theme or problem such as community, authority, justice, freedom, and utopia.

406. Studies in Political Philosophy: Theorists and Movements. (S) *Fall or Spring* (3) Mr. Smith and Mr. Schwartz.

An examination of the work and significance of a particular great political theorist, group of theorists, or major movements, such as Marxism, Utilitarian Reformism, Conservatism.

408. Human Destructiveness and Politics. (S) *Spring* (3) Mr. Smith.

Genocide pervades the contemporary imagination, yet both the origin and meaning of this form of human destructiveness are problematic. What is genocide? What is its history? Is there a basic structure to genocide? Do present attempts to explain genocide succeed? Who is responsible for genocide? How might genocide be prevented?

Readings from social science, history, philosophy, and literature, with occasional use of film.

410. British Government and Politics. (S) *Fall or Spring* (3) Mr. Ward. *Prerequisite: Government 311 or consent of instructor.*

A study of political institutions and political behavior in the United Kingdom. Special attention is given comparisons with the parliamentary democracies of the Commonwealth and the Republic of Ireland.

416. Revolution and Politics. (S) *Spring* (3) Mr. Grayson.

A study of social, political and economic conditions underlying revolutionary change. Careful attention is also given to leadership, organization, coalition-building, propaganda and counterrevolutionary strategies. The French, Russian and Cuban upheavals and Italian Fascism are among the revolutions studied.

417. Government and Politics in South Asia. (S) *Spring* (3) Mr. Baxter.

Historical origins will be emphasized early in the semester, political and economic modernization in the region will be considered next, and relations among the states of the region and the role of the region in world politics will complete the semester.

425. Arms Control. (S) *Fall* (3) Mr. McCain.

An examination of the arms rivalry between the United States and the Soviet Union along with possibilities for curtailing it. The history of arms control negotiations, the political and economic implications, and prospects for future agreements figure prominently.

433. Theories of the International System (S) *Fall* (3) Mr. Dessler.

A study of systematic approaches and their application to the traditional concerns of international relations theory and practice—power, conflict, order and justice.

436. International Relations of East Asia. (S) *Fall* (3) Mr. Kim.

A study of international relations of East Asia since 1945. Selected problems and issues will be considered.

451. Topics in Public Administration. (S) Spring (3) Mr. Morrow. Prerequisite: Government 351 or consent of instructor.

An examination of selected topics and issues in public administration. Such items as public budgeting, policy planning, policy evaluation, personnel management, inter-governmental relations, organizational theory and organizational development will be included.

454. The Politics of Metropolitan Areas. (S) Fall (3) Mr. McGlennon. Prerequisite: Government 351 or 353, or consent of instructor.

An examination of the American political system's capacity to confront and solve problems of the nation's urban areas. Historical, economic, and sociological factors affecting the political process in urban areas will be considered.

457. Public Policy and Administration. (S) Fall or Spring (3) Mr. Morrow and Mr. Evans. Prerequisite: Government 350.

A critical examination of the relationship between the public bureaucracy and public policy in the formation, implementation, and evaluation of policy.

458. Local Politics. (S) Fall (3) Mr. Edwards.

Government and politics at the local level, especially small cities and counties. Consideration will be given to public opinion and elections, development of political leadership, local administration and management, state and federal impact upon local government, and selected policy problems.

464. Political Socialization. (S) Fall (3) Mr. Rapoport.

An examination of the ways through which political attitudes are acquired and change throughout the life cycle. Topics to be covered include the content and distinctiveness of political attitudes, the effect of generations, subcultures, and sex roles on political attitude acquisition, and political resocialization.

465. Public Opinion and Voting Behavior. (S) Fall or Spring (3) Mr. Rapoport.

A study of the relationship between opinions and political policymaking, including the characteristics of political opinions, patterns of voting behavior, and the importance of leadership.

491. Seminar in Government. (S) Fall or Spring (3) Staff.

Selected topics in Government, the topic to be announced prior to the beginning of the semester. Special emphasis will be given to the active involvement of members of the seminar in individual research projects and the preparation of research papers.

494. Independent Study. Fall or Spring (3) Staff. Prerequisite: consent of Department Chair.

A program of independent study which usually involves extensive reading and the writing of an essay. A student must obtain permission from the Chair of the Department and the faculty member under whom he is to work before registering for this course. Government 494 cannot be used to satisfy the 400-level requirement for concentrators in Government and may not be taken more than twice.

HONORS STUDY

495, 496. Senior Honors. Fall and Spring (3, 3) Staff. Prerequisite: consent of Department Chair.

Students admitted to Senior Honors in Government will be responsible for (a) readings and discussion of selected materials; (b) satisfactory completion by April 15 of an original scholarly essay; (c) satisfactory performance in a comprehensive examination in the field of the student's major interest. Government 495 and 496 cannot be used to satisfy the 400 level requirement for concentrators.¹

Prospective honors students should discuss their application for senior honors with the department chairman in the spring semester of their junior year, prior to registration for fall courses.

¹For college provisions governing the admission to honors, see page 51.

GRADUATE PROGRAM

The Department offers the degree of Master of Arts. For degree requirements and a full description of graduate courses in Government, write to the Department Chair for a graduate catalog.

History

PROFESSORS SELBY (Pullen Professor and Chair), AXTELL, COYNER CRAPOL, ESLER, EWELL (Newton Professor), FUNIGIELLO, GENOVESE¹, HOAK, JOHNSON, LENMAN (Harrison Professor, 1988-89), MCGIFFERT, SHEPPARD, SHERMAN (Chancellor Professor), and TATE. ASSOCIATE PROFESSORS ABDALLA, CANNING, MCARTHUR, MCCORD, STRONG, WALKER, and WHITTENBURG. ASSISTANT PROFESSORS BRINK, C. BROWN, HAJEK², HALL², MACKIEWICZ³, and MERANZE³. LECTURERS BERGSTROM⁴, M. BROWN⁵, CARSON⁴, HEMPHILL⁴, HOBSON⁶, and KELLY⁴. ADJUNCT ASSOCIATE PROFESSOR SMITH⁷.

AREA AND SEQUENCE REQUIREMENTS

Area courses in history introduce students to the historical method and to a particular subject area. Sequence courses are generally narrower in breadth of subject matter than area courses. Many courses in history deserve both area and sequence designations because they introduce students to the nature of the historical discipline yet tend to be somewhat more specialized.

The normal area-sequence combination is History 101-102 and History 201-202.

Among other satisfactory combinations are: History 101-102 and two upper level European history courses (including Russian and English history), History 103-104 and two upper level history courses, History 201-202 and two upper level American history courses, History 205-206 and two upper level Asian history courses, and History 309-310 and two upper level Latin American history courses.

REQUIREMENTS FOR CONCENTRATION

Concentration in History requires 33 semester credits in history, including History 101, 102, 201, 202, and one of the following courses: History 205, 206, 307, 308, 309, 310, 379, 380. One or more of the preceding courses may be waived by the department chair upon demonstrated proficiency in European, United States, Latin American, Middle Eastern, African, or East Asian history. Among the courses taken for the History Concentration, at least one must be an upper-level course designated as a Colloquium or a Seminar. The colloquium/seminar courses will be identified with the designation "C" after the normal number (History 445C). Students may take this course in either the junior or senior year. The Colloquium and the Seminar differ in structure and focus, but each is intended to be a small, writing-intensive course. The Colloquium will entail extensive reading on a broad historical topic or theme; students will write several critical essays. The Seminar will prepare students to conduct research and to write a paper. Each seminar will treat a carefully defined historical problem, topic, or period. Students are advised not to limit their junior and senior year courses to those dealing with the history of any one nation. Foreign languages are recommended for students planning to concentrate in history.

Satisfactory completion of the department's colloquium/seminar requirement also fulfills the concentration writing requirement in History. Both colloquia and seminars provide students with a series of opportunities to practice their writing.

REQUIREMENTS FOR MINOR

A minor in History requires 18 semester credits in history, at least six hours of which must be taken at the 300-400 level.

¹Visting Distinguished Professor of Humanities and History, 1988-89.

²Visiting Assistant Professor, 1988-89.

³Fellow, Institute of Early American History and Culture

⁴Research Department, Colonial Williamsburg Foundation

⁵Archaeological Excavation and Conservations Department, Colonial Williamsburg Foundation

⁶John Marshall Papers

⁷Historic Area Programs and Operations, Colonial Williamsburg Foundation

DESCRIPTION OF COURSES

101, 102. History of Europe. (A) *Fall and Spring* (3, 3) Staff.

An introduction to Western civilization with emphasis on European political, economic, social, and cultural developments and their influence in shaping our contemporary world. Students will be encouraged to examine fundamental trends and the uses of the historical method. First semester, the ancient world to 1715; second semester, 1715 to the present.

103, 104. Global History. (A) *Fall and Spring* (3, 3) Mr. Esler.

An introduction to the history of the world, with emphasis on such broad aspects of the subject as major civilizations, cultural diversity, global conflict, and global convergence. First semester: from pre-history to 1500. Second semester: 1500 to the present. (103 not offered 1988-89.)

201, 202. American History. (AS) *Fall and Spring* (3, 3) Staff.

An introduction to the history of the United States from its origins to the present. First semester topics include the development of the American colonies and their institutions, the Revolution, the creation of the federal union, the people of America, the Civil War and Reconstruction. Second semester topics include major political, social, and economic developments since 1877, overseas expansion, the two world wars, and the Cold War. (Open to freshmen with permission of the instructor).

205, 206. Survey of East Asian Civilization. (AS) *Fall and Spring* (3, 3) Mr. Canning.

An introduction to the political and cultural history of East and Southeast Asia with special attention to China and Japan. First semester: East and Southeast Asia to 1600; second semester: East and Southeast Asia from 1600 to the present.

211, 212. Topics in American History. (AS) *Fall and Spring* (3, 3) Staff.

A course designed especially for freshmen and sophomores who have taken AP American history in high school. It is also open to upperclassmen, including those who have taken History 201-202.

Topic for Fall, 1988: Not offered.

Topic for Spring, 1989: The World of Columbus. Mr. Axtell.

The significance of the "discovery" of American in 1492: the Mediterranean prelude, Atlantic exploration, Columbus the sailor and man, native Americans, Spanish empire, birth of a world economy, intellectual legacy.

Topic for Spring, 1989: America in Vietnam. Mr. Crapol.

An examination of the United States' role in Vietnam from 1945 to 1975. The political, cultural, ideological, and economic ramifications of United States involvement will be analyzed from the American as well as the Vietnamese perspective.

Topic for Spring, 1989: Witchcraft in Early America. Mr. Krugler.

301, 302. Ancient History. *Fall and Spring* (3, 3) Mr. Jones.¹

Ancient civilization from prehistoric times to the downfall of the Roman Empire. The first semester deals with the ancient Orient and Greece; the second semester with Rome. (Same as Classical Civilization 311, 312. The course cannot be counted for concentration or a minor in History.)

307, 308. African History. (AS) *Fall and Spring* (3, 3) Mr. Abdalla.

A thematic approach to socio-economic and political change in Africa from early times to the present. Emphasis is on African cultural heritage, state building, internal and external trade, and interaction with outside forces: Islam, Christianity, and colonialism, as well as on Africa's present pressing problems. The course divides at 1800 A.D.

309, 310. Survey of Latin American History. (AS) *Fall and Spring* (3, 3) Ms. Ewell.

The development of Latin America from Pre-Columbian times to the present. Emphasis in the first semester is on the interaction of European, Indian, and African elements in colonial society to 1824. The second semester stresses the struggle for social justice, political stability, and economic development from 1824 to the present.

311, 312. Europe in the Middle Ages. (AS) *Fall and Spring* (3, 3) Ms. Brink.

The origins and nature of Medieval civilization. First semester: the newly formed West and the Roman, German, Byzantine, and Arab influences which worked to create

¹Chancellor Professor of Classical Studies.

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it. Second semester: the aggressive expansion of government, the church, business, and city life along with the counter-development of restrictive forces that limited their free expansion.

313. Renaissance and Reformation Europe. (AS) *Fall* (3) Mr. Hoak.

A survey of European history from 1400 to about 1648, with particular emphasis on the society of Renaissance Florence; the social and political basis of the Reformation; warfare, science, and discovery; the arts and popular culture. (Not offered 1988-89).

315, 316. The Age of Absolutism and Revolution in Europe, 1648-1871. (AS) *Fall and Spring* (3, 3) Mr. Sheppard.

An intensive survey of Europe in transition. First semester: 1648-1789, Absolutism, Enlightenment, Enlightened Depotism. Second semester: 1789-1870, Revolution, Industrialization, and the emergence of the modern state. (Not offered 1988-89).

317, 318. Recent Europe, 1870 to 1974. (AS) *Fall and Spring* (3, 3) Mr. Strong.

First semester covers Europe from the period of national consolidation to the First World War. Second semester covers from 1914 down to and including contemporary Europe. Fascism, the Second World War, and the Cold War are given special emphasis; the course concludes with a discussion of contemporary Europe. Special attention is given to social and cultural factors both semesters. (317 offered in *Spring*; 318 not offered 1988-89).

319, 320. The History of England. (AS) *Fall and Spring* (3, 3) Mr. McCord.

The political, social, religious, and economic history of England. First semester: Roman occupation through the reign of Elizabeth I. Second semester: 1603 to the present.

321, 322. The History of Russia. (AS) *Fall and Spring* (3, 3) Mr. McArthur.

The political, economic, social, and intellectual development of Russia. First semester to 1855. Second semester, 1855 to the present. (Not offered 1988-89).

323, 324. Intellectual History of Modern Europe. (AS) *Fall and Spring* (3, 3) Mr. Esler.

Cultural and intellectual development of the western world from the end of the middle ages to the present. First semester: from the renaissance to the enlightenment. Second semester: the nineteenth and twentieth centuries. (Not offered 1988-89).

331. History of Spain. (AS) *Fall* (3) Ms. Ewell.

A social, economic, and political history of Spain from the fifteenth century to the present. (Not offered 1988-89).

333, 334C History of Germany. (AS) *Fall and Spring* (3,3) Mr. Strong.

First semester: origins and establishment of the modern German state to the First World War. Second semester: establishment and course of Hitler's Third Reich. Some time at the end of the second semester is devoted to the development of the two Germanies since 1945. (Not offered 1988-89).

337, 338. History of France, 1648 to the Present. (S) *Fall and Spring* (3, 3) Mr. Sheppard.

First semester: 1648-1800. Intensive examination of a pre-industrial society with special emphasis on social, economic, and intellectual problems during the *ancien régime* and Revolution. Second semester: 1800-present. Special attention to social and economic problems as well as to the politics of twentieth-century France. (337 offered in *Spring*; 338 not offered 1988-89).

350. The Invasion of North America. (AS) *Fall* (3) Mr. Axtell.

An introduction to the exploration, exploitation, and colonization of eastern North America by the Spanish, French, English, and Dutch; their cultural interaction with the native Americans in war and peace.

351, 352. Introduction to Afro-American History. (AS) *Fall and Spring* (3, 3) Staff.

A survey of Afro-American history from 1500 to the present. The course will consider political, economic, and social developments within the black community, as well as black-white relations. The course divides at 1877. (Not offered 1988-89.)

361, 362C. Early American History. (S) *Fall and Spring* (3, 3) Mr. Purvis.

First semester covers the English settlement of North America, including the West Indies; development of the colonial economy; British imperial administration; and cultural developments through the 1750s. Second semester covers the background of the American Revolution; formation of the United States; and establishment of a national government through the War of 1812. (361 not offered 1988-89).

365C, 366. The United States, 1877 to 1945. (S) *Fall and Spring* (3, 3) Mr. Sherman.

The emergence of modern America. The focus is on domestic developments. Major topics include: the rise of industry, political trends, economic and social reform movements, and the role of ethnic and racial minorities. The course divides around 1920. (Not offered 1988-89.)

367. The United States, 1945 to 1980. (S) *Spring* (3) Mr. Sherman.

Domestic developments since World War II. Topics include political and economic trends, the civil rights movement, and other recent social reform activities.

373, 374. History of American Foreign Policy. (S) *Fall and Spring* (3, 3) Mr. Crapol.

The formulation and development of American foreign policy from 1775 through World War II. The emphasis is on the domestic and international forces which have shaped American foreign policy. Special attention is given to the problems involved in the planning and execution of foreign policy. First semester: 1775 to 1899. Second semester: 1899 to 1945.

375. U.S.-Japan Business Relations: A Historical and Economic Perspective (S) *Spring* (3) Mr. Canning and Mr. Parkany.

An examination of Japanese business and U.S.-Japan trade in the context of Japanese history and culture intended to clarify the nature of Japanese competition and the important economic relationship between America and Japan. (Not offered 1988-89.)

379, 380. The Modern Middle East. (AS) *Fall and Spring* (3,3) Mr. Abdalla.

A historical review of the modern Middle East that emphasizes the political and socio-economic changes of recent decades. Arab-Israeli conflict and the Islamic revival will receive close examination. The course divides at World War I.

†401, 402. Independent Study in History. *Fall and Spring* (3, 3) Staff.

A tutorial designed primarily for history concentrators who wish to pursue independent study of a problem or topic. Programs of study will be arranged individually with a faculty supervisor. Admission by consent of the chair of the department.

403. Colonial and Revolutionary Virginia. (S) *Spring* (3) Mr. Tate.

A specialized study of the founding and development of the Virginia colony with special emphasis on the evolution of its social and political structure.

409C, 410. England Under the Tudors and Stuarts. (S) *Fall and Spring* (3, 3) Mr. Hoak.

The first semester, 1485-1603; the second semester, 1603-1714.

413C, 414. The Making of Modern England. (S) *Fall and Spring* (3, 3) Mr. McCord.

An examination of the political, economic, social, and intellectual changes which explain England's transition from an aristocratic to a democratic society. The course divides in the mid-Victorian period. (Not offered 1988-89).

421, 422. The United States, 1815-1865. (S) *Fall and Spring* (3, 3) Mr. Johnson.

The origins, development, and outcome of the struggle between the North and South. The course divides with the outbreak of war at Fort Sumter. (422 offered *Fall and Spring*; 421 not offered 1988-89).

429. The American Constitution: Origins and Development. (S) *Spring* (3) Mr. Hobson.

American constitutional development from the colonial period through the Marshall Court. Special emphasis will be placed on the Convention of 1787 and the emergence of the Supreme Court as the key institution for shaping constitutional development in the new republic. (Not offered 1988-89).

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430. American Constitutional History, 1835 to 1974. (S) Fall (3) Staff.

An examination of the reciprocal relationship between the Constitution and American social forces. Major topics include the Civil War-Reconstruction era, governmental response to economic change, civil rights, minority relations, civil liberties, and the roles of President, Congress, and Supreme Court. (Not offered 1988-89).

441. The Caribbean. (S) Spring (3) Ms. Ewell.

A survey of the colonial history of the region followed by an analysis of the economic, social, and political developments of the nineteenth and twentieth centuries in the major island and mainland states.

442. Brazil. (S) Fall (3) Ms. Ewell.

Antecedents of modern Brazil, 1500-present, with accent on economic, social, and cultural factors as well as on political growth in the Portuguese colony, the Empire, and the Republic.

445. History of American Foreign Policy in the Cold War Era. (S) Fall (3) Mr. Crapol.

An intensive analysis of the origins of the cold war, the policy of containment, global conflict since 1945, the strategy of foreign aid, and the ideological contest in the under-developed world.

447C. The Crisis of European Society, 1400-1700. (S) Spring (3) Mr. Hoak.

Selected aspects of early modern Western society, including (for example) the social and economic foundations of Renaissance culture; poverty, crime, and violence; revolution and rebellion; death, disease, and diet; humanism and reform; witchcraft, magic, and religion; the new cosmography. Prerequisite: History 313, 319, or 409, or permission of the instructor. (Not offered 1988-89).

459. Problems in Modern History. (S) Spring (3) Mr. Lenman, James Pinckney Harrison Professor of History, 1988-89.

Topic: Law and Order in Early Modern Europe, with particular reference to the British Isles, 1603-1800.

461. Early American Social History. (S) Spring (3) Mr. Whittenburg.

An examination of American social patterns from 1607 to 1800. Special emphasis on long-range trends of change and consistency. Topics will include, but not be limited to, economic, demographic, political, and religious developments.

463. The Old South. (S) Fall (3) Mr. Coyner.

The American South from its colonial origins to the defeat of the Confederacy, including, as major topics, social structure, economic and geographic expansion, slavery as a system of profit and social control, the growth of southern sectionalism, and the southern mind.

464C. The Emergence of the New South Since 1865. (S) Spring (3) Ms. Walker.

A survey of the political, economic, and social developments in the South since the Civil War. The course examines Reconstruction, the Bourbon regimes, Populism, racism, progressivism, the depression, the New Deal, and post World War II conditions. (Not offered 1988-89).

465. Slavery in the American South (S) Spring (3) Mr. Coyner.

Major topics will include law and custom, material condition, the development of a distinctive Afro-American culture, resistance and rebellion, the slave family, urban slavery, slave labor in industry and transportation, and slavery during the Civil War. (Not offered 1988-89).

471C. Contemporary Russia: Selected Problems. (S) Spring (3) Mr. McArthur.

A seminar on the Soviet Union, c. 1930-1975. Initial readings deal with the Stalin period, but the major focus is on continuity and changes since Stalin's death. Themes include: dissident intellectuals and the regime, the scientific-technical elite, and foreign relations.

472C. The Russian Revolution (S) Fall (3) Mr. McArthur.

The origins, course, and impact of the Bolshevik Revolution. Considerable use will be made of primary materials. A knowledge of the Russian languages is not required, but will be utilized when available.

474C. Medieval England. (S) Fall (3) Staff.

Special emphasis will be placed on the period from the Norman Conquest through the

fourteenth century, when the English were aggressive abroad and creative at home. The social, economic, political, and military explanations for this expansive period will be examined. (Not offered 1988-89.)

475. Growth and Development of the American Economy. (S) Spring (3) Mr. Funigiello.

This course surveys the development and structure of the American economy and of business enterprise in response to changing markets and technology from colonial beginnings to the present. Major topics include agriculture, commerce, finance, manufacturing, and transportation. (Not offered 1988-89.)

476. The Rise of Urban America. (S) Fall (3) Mr. Funigiello.

The American city from the colonial period to the present; political and economic institutions, social change, technological innovations, planning theories, and the reactions of sensitive observers to the process of urbanization as expressed in imaginative literature and scholarly studies.

477. History of Mexico. (S) Spring (3) Ms. Ewell.

Development of the Mexican nation from the Spanish conquest to the present. Sequential treatment of the interaction of Spanish and Indian cultures, expansion of the frontier, independence, 19th century liberalism and caudillism, the Mexican Revolution of 1910 and its institutionalization. (Not offered 1988-89.)

481. History of Physical Science: Its Origins, Sixth Century B.C. Through the Renaissance. Spring (3) Mr. McKnight.¹

A study of the Greek and Hellenistic endeavors to explain observed physical phenomena, of Arab science in the Middle Ages, of the revival of academic science during the rise of European universities, and Renaissance beginnings of modern physics and astronomy. (Same as Physics 417. This course cannot be counted for concentration or a minor in History.) (Not offered 1988-89.)

482. History of Physical Science: The Classical Period, 1687-1900. Fall (3) Mr. McKnight.¹

The physical sciences after the publication of Newton's *Principia*. Influences acting on and within the scientific community, the impact of science on society, and the interrelations between the development of science and that of mathematics and philosophy are emphasized. (Same as Physics 418. This course cannot be counted for concentration or a minor in History.) (Not offered 1988-89.)

483. Modern Japanese History. (S) Fall (3) Mr. Canning.

A history of Japan from the Tokugawa period (1600-1868) to the present with special emphasis on the 19th and 20th centuries.

484. Modern Chinese History. (S) Spring (3) Mr. Canning.

A history of China from 1644 to the present focusing on China's imperial system, the experiment with republican government, and China under communist rule.

485. The Environmental History of the United States. (S) Spring (3) Mr. Tate.

A study of the relationship of Americans to the natural environment from both a technological and an intellectual approach. Emphasis is on the historical background and origins of the current ecological crisis. (Not offered 1988-89.)

487C. Indian and White in America. (S) Fall (3) Mr. Axtell.

An introduction to the cultural and political relations between native Americans and Euro-Americans, 1492 to the present, from the perspective of ethnohistory. (Not offered 1988-89.)

490C, 491C. Seminar in History. (S) Fall and Spring (3, 3) Staff.

Topics for Fall, 1988:

Section 1 — The Southern Conservative Tradition. Mr. Genovese.

This is a lecture course. It will not fulfill the departmental writing requirement.

Section 2 — Historians and Computers. Mr. Whittenburg.

Through readings, discussions, and hands-on applications, this course will introduce students to quantitative research. Objectives will be to produce educated consumers of quantitative scholarship and to provide basic research skills.

No background in either statistics or computers is expected. This course will not

¹Professor of Physics.

HISTORY

fulfill the departmental writing requirement.

Section 3 — Famine in Africa. Mr. Abdalla.

A multidisciplinary approach to the problem of inequitable food distribution in Sub-Saharan Africa and the inevitable consequence of famine and death. Colloquium assesses the role of politics, economic planning, nutrition, health, and climate in recent famines.

Section 4 — Women in America. Ms. Walker.

An examination of the changing status and roles of American women from the colonial period to the present. Readings will include both primary and secondary sources.

Section 5 — The Tangible Past. Ms. Mackiewicz.

An examination of the physical past of early America with special attention to cultural landscapes, civic and domestic architecture, and domestic furnishings as a means of retrieving historical information about the values, ideas, attitudes, and standards of living of American society. *Prerequisite: History 201 or permission of instructor.*

Section 6 — Slavery in Western Civilization. Mr. Genovese.

This colloquium will attempt to evaluate the experience of Western societies with slavery from ancient times to modern.

Topics for Spring, 1989:

Section 1 — The University in History: From Bologna to Bloom. Mr. Axtell and Mr. Thelin.

An exploration of the mission and character of higher education, from medieval Europe to contemporary United States. Focus is on the close relations between society and its educational institutions, and the curricular and extracurricular life of students.

Section 2 — From Enlightenment to Renaissance: Politics, Culture, and Society in America, 1750-1840. Mr. Meranze.

Section 3 — American Democracy Through Foreign Eyes. Mr. Genovese.

Section 4 — Slavery in the Old South. Mr. Genovese.

493C. Studies in Historiography. (S) Fall (3) Ms. Ewell.

Study of the development of historical methods and philosophies from the ancient Greeks to the present. Enrollment limited to juniors and seniors. *Prerequisite: 12 hours in history or consent of the instructor (where a qualified candidate lacks 12 hours credit in history.)*

HONORS STUDY

495, 496. Honors. Fall and Spring (3, 3) Staff.

Students admitted to Honors Study in History will be enrolled in this course during both semesters of their senior year. Each candidate will be responsible for (a) reading and discussion of a selected list of books in some specific area of historical literature; (b) a scholarly essay by April 15; (c) a comprehensive oral examination. Admission by consent of the department chairman.¹

THE JAMES PINCKNEY HARRISON CHAIR OF HISTORY

The generosity of Mrs. James Pinckney Harrison and her son, Mr. James Pinckney Harrison, Jr., has enabled the College to establish an endowed chair in History in honor of James Pinckney Harrison, Sr. The purposes of this endowment are explained by the donors as follows:

The James Pinckney Harrison Chair of History is established to encourage the study of history as a guide for the future, as a field of absorbing interest and pleasure, and as a source of the wisdom, charm and gentility exemplified by James Pinckney Harrison. Born in Danville in 1896, he spent much of his life until his death in 1968 in Charles City County, not far from "Berkeley," his ancestral home. Far-ranging travels for business and country led him to an appreciation of many cultures of the world, but also strengthened his love and commitment to Virginia. As Chairman of the Board of Universal Leaf Tobacco Company of Richmond for many years, James Pinckney Harrison served in many civic, philanthropic and business affairs, ever enriching the life of those around him.

¹For college provisions governing the admission to honors, see page 51.

GRADUATE PROGRAM

The department offers the degrees of Master of Arts and Doctor of Philosophy. For degree requirements, and a full description of graduate courses in history, write to the department chairman for a Graduate Catalog.

In addition to traditional preparation in teaching and research, the Department of History, in conjunction with the Institute of Early American History and Culture, the Earl Gregg Swem Library, the Department of Anthropology, the Virginia Research Center for Archaeology, and the Colonial Williamsburg Foundation, offers a unique opportunity for students in the master's and doctoral programs to obtain practical experience in other career fields related to history. Apprenticeships for master's and first-year doctoral students and internships for advanced doctoral students are available in archives and manuscript collections, the editing of historical books and magazines, historical archaeology, and the museum administration.

Honors Program

In addition to departmental Honors, the College offers four team-taught, multi-disciplinary Honors courses (Honors 201, 202, 203, and 205). Each of these courses emphasizes writing and student participation in a small seminar setting. Students who complete Honors 201 or 203 will receive 4 hours of Area I credit, and students who complete either 202 or 205 will receive 4 hours of Area 2 credit. Information and application forms are available at the Charles Center for Honors and Interdisciplinary Studies. *Prerequisite: Admission by approval of the Committee on Honors and Interdisciplinary Studies.*

Honors 201. The Self and the Other. Perspectives on Western Culture. (A) Fall (4) Staff. An interdisciplinary examination of themes such as self-discovery, romantic love, the family, equality between human beings, civic responsibility, technology, and artistic expression. Small seminars and bi-weekly forums.

Honors 202. The Individual and Society: Perspectives on Western Society. (A) Spring (4) Staff.

An examination of the individual as a social and political being. The course focuses on a careful reading of texts by (for example) Aeschylus, Dante, Machiavelli, Rousseau, Austen, Marx and Freud. Small seminars and weekly forums.

Honors 203. Chinese Thought Systems. (A) Fall (4) Staff.

An interdisciplinary survey of the development of Chinese cultural and intellectual traditions from Classical China to the present (including literature, philosophy, religion, politics, and economics). Small seminars and weekly forums.

Honors 205. Perspectives on Women and Culture. (A) Spring (4) Staff.

An interdisciplinary exploration of women's contributions to the Western cultural tradition and of how images of woman have helped construct that tradition. Topics include women and religion; women and reproduction; race and gender; representations of women; and the construction of female identity. Small seminars and weekly forums.

Interdisciplinary Study

Chair of the Committee, Center for Honors and Interdisciplinary Studies.

The curriculum of the Faculty of Arts and Sciences provides for interdisciplinary concentrations. Under this program, a student formulates an interdisciplinary concentration in consultation with a faculty advisor, and the proposed concentration is submitted to the Committee on Interdisciplinary Study for approval. The responsibility for formulating a sound academic program of interdisciplinary study lies with the individual student and the advisor. Normally, students pursuing an interdisciplinary concentration base their program upon a solid understanding of an established discipline. Programs for the more popular interdisciplinary concentrations have been formulated and requirements are listed below. Application forms and detailed information concerning interdisciplinary study are available from the office of the Registrar or the Chair of Interdisciplinary Study. Applications for interdisciplinary concentration must be sub-

INTERDISCIPLINARY STUDY

mitted to the Interdisciplinary Study Committee before the beginning of preregistration for the first semester of the student's senior year.

All interdisciplinary programs must be compatible with the degree requirements for Arts and Sciences. No concentration may exceed 42 or comprise less than 30 hours. In addition, an interdisciplinary concentration generally includes courses from at least three departments, with no more than half of the credit hours from any one department. More than two courses at the introductory level are seldom approved.

Each concentrator must fulfill the Concentration Writing Requirement by earning a grade of C or better in the course(s) designated by the student as the writing course(s) within the program submitted to the Interdisciplinary Study Committee. The Committee must approve the designation of courses which fulfill the writing requirement.

DESCRIPTION OF COURSES

The following interdisciplinary courses do not fall under the usual departmental offerings. These courses are taught by individual instructors or by a group of instructors who wish to explore a subject outside the present departmental programs. They are coordinated by the Center for Honors and Interdisciplinary Studies. The courses may satisfy an interdisciplinary sequence.

Interdisciplinary 321. Library Resources for the Humanities. Fall (2) Ms. B. Manzo and Mr. J. Rettig. *Prerequisites:* two area courses in any two humanities departments.

An introduction to the organizational characteristics of reference works in the humanities, bibliographic control of data, and research strategies for obtaining information on a desired topic. Lecture 3 hours per week for a 9 week period.

Interdisciplinary 323. Library Resources for the Social Sciences. Spring (2) Ms. B. Manzo and Mr. J. Rettig. *Prerequisites:* two area courses in any two social sciences.

An introduction to the organizational characteristics of reference tools in the social sciences, bibliographic control of data, and research strategies for obtaining information on a desired topic. Lecture 3 hours per week for a 9 week period.

With the exception of Independent Study and Honors, courses for an interdisciplinary concentration are selected from those available in the curriculum of the various departments and schools, and their descriptions appear elsewhere in the catalog.

480. Independent Study. (3)

For concentrators who have completed most of their concentration requirements and who have secured approval of the Committee on Interdisciplinary Study and that of the instructor(s) concerned. An Interdisciplinary Concentration can include no more than six hours of Independent Study.

495, 496. Interdisciplinary Honors. (3, 3)¹.

Students admitted to Interdisciplinary Honors will be enrolled in this course during both semesters of their senior year. Each candidate will be responsible for (a) formulating a program of study in consultation with a faculty advisor; (b) preparation and presentation by April 15 of an honors essay; (c) satisfactory performance in a comprehensive oral examination which focuses on the subject matter of the honors essay. The procedures and standards for Interdisciplinary Honors will be those in force in the department of the student's primary faculty advisor.

THE KENAN DISTINGUISHED PROFESSORSHIP

A generous gift from the William R. Kenan, Jr., Charitable Trust supports the Kenan Distinguished Professorship at the College. The Professorship, in the humanities, is occupied annually by a visiting professor with a preeminent reputation and has the primary purpose of encouraging excellence in teaching at the undergraduate level.

AMERICAN STUDIES

A minimum of 36 credit hours as follows: (a) at least two advanced courses in History on American topics; (b) at least two courses from English 361, 362, 363, 364; (c) at least one course from Music 369, 391, Fine Arts 458, 451, 452, and Theatre 410, 420; (d) at

²For college provisions governing the admission to honors, see page 51.

least two advanced courses in anthropology or sociology relating to American culture; (e) independent study or honors; and (f) a minimum of twelve additional hours chosen to explore in depth one area of American Studies.

COMPARATIVE LITERATURE

There are two alternative concentration plans, the first of which is recommended for students planning graduate study in Comparative Literature. Either a minimum of 33 credit hours as follows: (a) Comparative Literature 201, 202; (b) at least 12 credits of Comparative Literature in translation; (c) at least 15 credits of advanced literature courses (300-400 level) in the original languages, selected from the Departments of Classical Studies and Modern Languages and Literatures; (d) competency through the 202 level in a second foreign language by the completion of the junior year; or a minimum of 39 credit hours as follows: (a) Comparative Literature 201, 202; (b) at least 12 credits of Comparative Literature beyond the 200 level; (c) at least 21 credits of advanced literature courses (300-400 level) selected from the departments of Classical Studies, Modern Languages and Literatures, and English, with at least 9 credit hours in courses in a language other than English.

ENVIRONMENTAL SCIENCE

A minimum of 38 credit hours as follows: (a) Biology 311, 426; (b) Geology 102, 305; (c) Economics 422; (d) Mathematics 111, 112; (e) Chemistry 103, 206; and (f) at least six additional hours from Biology 315, 316, 412, 416, 428, Geology 306, Government 351, 456, History 485, Interdisciplinary Study 480, 495-496, Marine Science 401, 402, 403, 404, 406, 410, 412, 413, and Physics 265, 266.

ITALIAN STUDIES

A minor in Italian Studies consists of a minimum of 18 hours as follows: (a) Italian 301 or 302; (b) at least six hours from Italian 303, 305, 306, 307, 309, 310, 312; (c) at least nine hours from at least two other departments, chosen from Fine Arts 405, 406, 454; Music 363, 381; Comparative Literature 309, 490; and History 313.

LINGUISTICS

A minimum of 30 credit hours selected by the student in consultation with an advisor on the Linguistics Committee (A. Reed, T. J. Taylor). At least 24 of these credits must be chosen from among courses numbered 300 or higher. Each concentrator is normally expected to select courses in accordance with the following plan: (a) 18 credits consisting of English 210, 211 (Anthropology 211), 304, 405 (Anthropology 430), 406 (Anthropology 440), and 464 (which may be taken more than once with different topics, although all other courses under this heading must also be taken); (b) at least 3 credits from English 303, French 410, German 406, and Spanish 410; (c) at least 3 credits from English 302 or 409, Philosophy 300, 301, 404, or 406 (strongly recommended), Independent Study (either English 481 or Interdisciplinary 480), also strongly recommended, and Interdisciplinary Honors. The student may propose other courses in the College which make a coherent addition to the concentration program. In the recent past students have selected courses in Philosophy (336 and 442), Psychology (351, 362, 451, and 452), Computer Science (442), and Speech (311).

PUBLIC POLICY

There are two alternative concentration tracks in Public Policy--"Policy Analysis" and "Policy Processes." While the two tracks share a common core of courses, there are also requirements within each track and a set of elective courses from which students can choose. A concentration in Public Policy includes a minimum of 33 semester hours selected from courses referred to below. In addition, the implicit requirements of Economics 101 and 102 and Government 201 add nine more required credits for the concentration. There is a set of five common core courses for either track. These include: Statistics (either Economics 307 or Sociology 307); Government 350; Government 456; Economics 321 and Ethics (either Philosophy 303 or Religion 325). Each of the two primary tracks has two additional core courses. The public policy analysis track

INTERNATIONAL STUDIES

requires: Economics 303 and Economics 308. The public policy processes track requires: Government 351 and either Sociology 305 or Government 307. The remaining twelve hours of required courses for the concentration must be chosen from the list of approved electives from the Departments of Anthropology, Economics, Government, History, Mathematics, Psychology, Religion, Sociology, and the School of Business.

URBAN STUDIES

A minimum of 30 hours as follows: (a) Fine Arts 402; (b) Government 353, 454; (c) History 476; (d) Sociology 352, 413; (e) Economics 345; (f) Economics 307 or Government 307 or Sociology 307; and (g) at least six hours from Economics 321, 422, 444, Geology 305, Government 351, Computer Science 141, and Sociology 328.

International Studies

Professor Bill, Director

The curriculum of the Faculty of Arts and Sciences provides for interdisciplinary concentrations in International Studies which include established programs in East Asian Studies, International Relations, Latin American Studies, and Russian/Soviet Studies as well as individually designed programs with an international emphasis. A prospective concentrator in one of these areas of International Studies formulates a concentration in consultation with the Director. Application forms are available at the Center for International Studies. The application for concentration must be submitted to the Center for International Studies before the beginning of preregistration for the first semester of the student's senior year.

All programs of International Studies must be compatible with the degree requirements of the Faculty of Arts and Sciences. No concentration may exceed 42 hours or be less than 30 hours. Generally, a concentration in International Studies includes courses from at least three departments, with no more than half of the credit hours from any one department. In addition students who create self-designed concentrations in International Studies must include a foreign language component beyond the College's proficiency requirement. Students must either (1) take two courses beyond the 202-level in at least one modern language; or (2) demonstrate proficiency at the 202-level in a modern language other than the one used to fulfill the College language proficiency requirement.

The concentration writing requirement in International Studies may be satisfied by earning a grade of C or better in any course in the concentration at the 300 or 400 level which provides a series of writing opportunities. An Honors paper, a senior paper, or any other course in which a single paper is submitted in various drafts requiring instructor comment is also acceptable. The Director of International Studies must approve the course designated as fulfilling the concentration writing requirement. Except in the case of a senior research project or an Honors thesis, the course should be taken prior to the beginning of the student's graduating semester.

Students are encouraged to seek opportunities for study abroad which are complementary to their International Studies concentration.

DESCRIPTION OF COURSES

With the exception of Independent Study and Honors, courses for an International Studies concentration are selected from those available in the curriculum of the various departments and schools, and their descriptions appear elsewhere in the catalog.

INTL 480. Independent Study. (3)

For concentrators who have completed most of their concentration requirements and who have secured approval of the Director of International Studies and that of the instructor(s) concerned. An International Studies concentration can include no more than six hours of independent study.

INTL 495-496. Interdisciplinary Honors. (3,3)¹

Students admitted to Interdisciplinary Honors will be enrolled in this course during both semesters of their senior year. Each candidate will be responsible for (a) formulating a program of study in consultation with a faculty advisor; (b) preparation and presentation by April 15 of an honors essay; (c) satisfactory performance in a comprehensive oral examination which focuses on the subject matter of the honors essay.

AFRICAN STUDIES (Minor)

African Studies as a minor is structured to provide the student with a comprehensive knowledge of African history, culture and political economy. It emphasizes analytical skills and develops models for understanding African society and African heritage. A minimum of eighteen credit hours is required which must include the following: Anthropology 331, Economics 483, Government 337, and History 308. The remaining six hours may be chosen from these courses: Anthropology 304, 366, 417*; English 405*, 406*; French 385, 386; Government 327; History 307, 490*; and Religion 300. Courses in French and Portuguese are highly recommended. (Courses marked by asterisks may be counted only when they treat African topics.)

EAST ASIAN STUDIES

An East Asian Studies concentration requires thirty-three hours, which include the following requirements: (1) *Language*: (a) two courses beyond the 202-level in Chinese or Japanese; (b) Chinese 101, 102, 201, 202 and Japanese 101, 102, 201, 202; or (c) demonstrated proficiency at the 202-level in Chinese or Japanese and a modern language other than the one used to fulfill the College language proficiency requirement. Courses in translation may not be included. (2) *Required Courses (18 credits)*: (a) History 205-206: Introduction to East Asian Civilization, (b) Anthropology 347: Peoples and Cultures of East Asia, (c) Government 336: Governments and Politics of China and Japan, (d) Religion 313: History of Religion in East Asia, and (e) one course in comparative literature (203, 204 or 310). (3) *Electives (15 credits)*: The remaining 15 credit hours may be selected from a list of approved courses. Up to 9 credit hours obtained through study abroad programs may be used to meet the 33 credit requirement. No single department may account for more than 15 of the 33 credit total. (4) *Concentration Writing Requirement*. This requirement may be satisfied by earning a grade of C or better in a course marked by an asterisk (*) or by fulfilling the writing requirement in any participating department.

INTERNATIONAL RELATIONS

The concentration in International Relations is designed to illuminate relations between states and the nature of the system of states. Normally, courses which deal exclusively with the internal affairs of states will not be accepted unless it can be shown that they contribute substantially to an understanding of the relations between nations. A concentration requires thirty hours, twelve of which must be selected from the following: Government 323 (mandatory, unless counted toward a concentration or minor in Government); Government 324, 325, 326; Economics 471 and 472; History 374 and 445. From the above, at least one course in Economics and one in History must be included. At least eighteen additional hours in suitable areas complete the concentration and might include Economics 482, 483; Government 327, 328, 335, 338, 425, 433, 436, or 391 and 491 (appropriate topics); History 317, 318 and 373; and Interdisciplinary Honors 495-496. Appropriate courses in Anthropology, Business, Philosophy, and Religion might also be used to fulfill the concentration's remaining requirements.

In addition International Relations concentrators must (1) take two courses above the 202-level in at least one modern language; or (2) demonstrate proficiency at the 202-level in a modern language other than the one used to fulfill the College language proficiency requirement. Courses in translation may not be included.

This language requirement is in addition to the 30 hours required for the concentration in International Relations.

¹For college provisions governing the admission to honors, see page 51.

MATHEMATICS

LATIN AMERICAN STUDIES

The concentration in Latin American Studies features a detailed examination of the cultural, economic, historical, political, and social development of one of the world's most dynamic and diverse regions. The student who wishes to specialize in Latin American Studies should be prepared to pursue advanced work in a variety of disciplines such as Anthropology, Economics, Government, History, and Latin American Literature. A concentration requires 36 hours, including all of the following: Anthropology 323, 324 or 330 (choose two); Government 338; History 309 and 310; Spanish 303 and 304. The remaining fifteen hours required for the concentration may be chosen from the following: Anthropology 304, 305, 321; Economics 482, 483; Government 416; History 441, 442, 477, 490* and 491*; Spanish 305, 310*, 397* and 398* *(Latin American topics only).

RUSSIAN/SOVIET STUDIES

The concentration in Russian/Soviet Studies is designed to provide the student with a broad background in Russian culture and history as well as familiarity with contemporary Soviet affairs. The student who wishes to concentrate in Russian/Soviet Studies should be prepared to conduct an in-depth exploration of two areas of study: language, literature and culture; and history, economics, and government. A concentration requires 30 credit hours, distributed as follows: three courses from Russian 207, 301, 302, 387, and 388. Three of the following courses: Economics 309, 482; Government 334; History 321, 322. At least 12 additional hours chosen from the courses aforementioned which were not used as a required course, or History 471C, 472C; Government 335, 425, or 391 and 491 (appropriate topics); Russian 307, 310, 397, 398, 402.

Mathematics

ASSOCIATE PROFESSOR STANFORD (Chair). PROFESSORS C. JOHNSON¹, RODMAN², SHIER. ASSOCIATE PROFESSORS CONNER, DREW, EASLER, LAWRENCE, RABINOWITZ, RUBLEIN, SANWAL and SHAEFER. ASSISTANT PROFESSORS KINCAID AND LI³. SENIOR RESEARCH ASSOCIATE ANDERSEN.

AREA AND SEQUENCE REQUIREMENTS

The basic college requirement concerning Area III may be satisfied in the Department of Mathematics by taking any two of the courses Math 106, 108 or 111, 112, 211, and 212. Note that Math 106 and 108 may be taken in either order, but that neither may be taken after completing either Math 211 or 212. A similar statement holds for Math 106 and 111. Credit may not be received for both Math 108 and 111.

After the two-course Area requirement has been satisfied in the Department of Mathematics, then the in-depth or sequence requirement may be satisfied by taking any two other courses labeled Mathematics and designated (S) or (AS).

MATHEMATICS CONCENTRATION

Mathematics in its abstract form is a study of relationships between objects. As seen by the modern mathematician, it is both the language of reason and a basic tool of the physical and social sciences.

The mathematics program at William and Mary is designed to provide a broad background in various aspects of the subject, with specific sub-programs aimed at preparing students for graduate school in mathematics, operations research, statistics, or engineering, for teaching at the elementary and secondary level, for careers as industrial mathematicians or actuaries, or for interdisciplinary work in such fields as economics, business, and the social sciences.

¹The Class of 1961 Professor of Mathematics.

²Visiting Professor 1988-89.

³Visiting Assistant Professor, 1988-89.

The basic concentration requirements are:

1. Math 111, 112, 211, 212, 311, 405, 407, and Computer Science 141.
2. Twelve additional semester hours chosen from courses labeled Mathematics and numbered above 300.

This requires a minimum of 38 semester hours. A well-prepared student may elect to skip Math 111 or Math 111-112. Each skipped course for which the student does not receive Advanced Placement credit or credit by examination must be replaced by a 3-credit course labeled Mathematics and numbered above 300.

A student may satisfy the Concentration Writing Requirement in Mathematics by receiving a grade of C or better in Mathematics 308, 407, 412, or 496.

MATHEMATICS MINOR

At least eighteen credit hours of course work must be completed from mathematics courses labeled 111 or above. A well-prepared student may elect to skip Math 111 or Math 111-112. No skipped course can count towards the 18 credit hour requirement unless advanced placement credit or credit by examination has been received for that course.

DESCRIPTION OF MATHEMATICS COURSES

103. Pre-calculus Mathematics. *Fall and Spring (2) Ms. Avioli*

A study of the real number system, sets, functions, graphs, equations, and inequalities, systems of equations, followed by a study of the trigonometric functions and their properties. This course is designed only for students intending to take Math 108 or Math 111, and whose background is deficient in algebra and trigonometry. Juniors and seniors must obtain permission from the instructor to enroll. This course may not be applied either towards concentration in mathematics or towards satisfaction of college area requirements. A student may not receive credit for this course after successfully completing a mathematics course numbered above 107.

106. Elementary Probability. *(A) Fall and Spring (3) Staff.*

Finite probability theory and its application to statistical methods. Topics include sample spaces, probability models, random variables and their moments, and some standard distributions. Application will be made to statistical inference with emphasis on underlying principles and assumptions rather than on special techniques. Not open to students who have successfully completed a Mathematics course numbered above 210.

108. Calculus: Concepts and Applications. *(A) Fall and Spring (3) Staff.*

An introduction to the concepts of the single-variable calculus of rational, exponential, and logarithmic functions, with applications to the sciences, social sciences, and business. Proficiency in algebra is required. This course is not designed for Area III concentrators, or for those planning to take Math 112. Students may not obtain credit for both Math 108 and Math 111, and may not receive credit for 108 if taken after passing a mathematics course numbered above 108.

110. Topics in Mathematics, I. *(A) Fall or Spring (3) Staff.*

An introduction to mathematical thought with topics not routinely covered in existing courses. Material may be chosen from calculus, probability, statistics and various other areas of pure and applied mathematics.

111. Calculus. *(A) Fall and Spring (4) Staff.*

Inequalities, absolute value; functions, limits, derivatives, Mean Value Theorem; maxima and minima problems; related rates; the definite integral and Fundamental Theorem of Integral Calculus; applications of integration. Proficiency in algebra and trigonometry is required. Those students who lack this preparation should take Math 103 first.

112. Calculus. *(A) Fall and Spring (4) Staff. Prerequisite: Math 111 or equivalent.*

Differentiation of trigonometric, logarithmic, and exponential functions; techniques of integration; infinite series, Taylor's theorem with remainder, and power series; polar coordinates and parametric equations.

MATHEMATICS

210. Topics in Mathematics, II (AS) Fall or Spring (3) Staff.

A treatment of topics of interest, but not usually covered by existing elementary courses. Material may be chosen from linear algebra, differential equations, geometry and various other areas of pure and applied mathematics.

211. Linear Algebra. (AS) Fall and Spring (3) Staff. Prerequisite: Math 112.

An introduction to matrices and determinants, vector spaces, linear transformations, eigenvalues and eigenvectors.

212. Introduction to Multivariable Calculus. (AS) Fall and Spring (3) Staff. Prerequisite: Math 211 or consent of the chairman of the department.

Functions of several variables, surfaces in three-space, vectors, techniques of partial differentiation and multiple integration with applications.

302. Ordinary Differential Equations. (AS) Fall and Spring (3) Staff. Prerequisite: Math 211 or 212 or consent of the chairman of the department.

First order differential equations, initial value problems, second order linear differential equations, systems of linear differential equations plus material chosen from the following list of topics: Laplace transforms, numerical methods, stability, partial differential equations.

308. Geometry. (AS) Fall of even numbered years (3) Staff. Prerequisite: Math 211.

Axioms and deductive reasoning; some advanced Euclidean geometry; some topics from various non-Euclidean geometries.

309. Nonparametric Statistics. Fall or Spring (3) Staff. Prerequisites: Math 112 and an introductory course in statistics.

Techniques presented are mainly rank tests of the Wilcoxon type, and the estimation and simultaneous inference procedures based on these tests. Topics will include the Wilcoxon rank-sum test, Siegel-Tukey, and Smirnov tests for comparing two treatments; use of ranks in randomized complete blocks; tests of randomness and independence.

311. Advanced Calculus. (AS) Fall and Spring (3) Staff. Prerequisite: Math 211 and 212.

A continuation of Math 212. Topics include a brief review of multiple integration and techniques of partial differentiation; line and surface integrals; theorems of Gauss, Green and Stokes; infinite series and uniform convergence; power series. Fourier series.

401-402. Probability and Statistics. (S) 401 Fall and Spring (3), 402 Spring only (3) Staff. Prerequisite: Math 211 and 212.

Topics include: combinatorial analysis, Bayes' Theorem, discrete and continuous probability distributions and characteristics of distributions, statistical inference theory and applications including sampling from probability distributions, estimation, hypothesis testing, confidence methods, regression analysis, and analysis of variance. See note on page concerning credit for statistics courses.

403-404. Intermediate Analysis. (S) Fall and Spring (3, 3) Staff. Prerequisite: Math 311.

Set theory; the real number system; analysis in metric spaces including continuity and convergence; normed linear spaces; integration and differentiation theory.

405. Complex Analysis. (S) Fall and Spring (3) Staff. Prerequisite: Math 311.

The complex plane, analytic functions, Cauchy Integral Theorem and the calculus of residues. Taylor and Laurent series, analytic continuation.

407. Abstract Algebra. (S) Fall and Spring (3) Staff. Prerequisite: Math 211.

Groups, rings, fields, isomorphisms; polynomials, modules. Additional topics chosen from group theory and ring theory, as time permits.

408. Advanced Linear Algebra. (S) Spring (3) Staff. Prerequisite: Math 211.

Matrix analysis and canonical forms useful in application. Vector spaces, linear transformations, and matrices over the complex numbers are considered..

410. Special Topics in Mathematics. (S) Fall or Spring (1, 2, or 3 credits, depending upon materials) Staff.

A treatment of topics of interest not routinely covered by existing courses. Material

may be chosen from topology, algebra, differential equations, and various other areas of pure and applied mathematics.

412. Introduction to Number Theory. (S) Spring (3) Staff.

An elementary course in the theory of integers, divisibility and prime numbers, a study of Diophantine equations, congruences, number-theoretic functions, decimal expansion of rational numbers and quadratic residues.

413-414. Introduction to Numerical Analysis. (S) Fall and Spring (3, 3) Staff. Prerequisite: *Math 211 and 212 and C.S. 141.*

A discussion of the mathematical theory underlying selected numerical methods and the application of those methods to solving problems of practical importance. Computer programs are used to facilitate calculations. Among the topics covered are roots of equations, systems of linear equations, interpolation and approximation, and numerical integration.

423. Introduction to Operations Research I. (S) Fall (3) Staff. Prerequisite: *Math 211.*

A survey of deterministic operations research techniques including linear programming including linear programming and applications, network analysis, dynamic programming and game theory.

424. Introduction to Operations Research II. (S) Spring (3) Staff. Prerequisite: *Math 401.*

A survey of probabilistic operations research models including stochastic processes, Markov chains, queueing theory and applications, inventory theory, Markovian decision processes, reliability, and decision analysis.

426. Topology. (S) Fall or Spring (3) Staff. Prerequisite: *Math 311 or consent of instructor.*

A study of topological spaces, metric spaces, continuity, product spaces, compactness, connectedness, and convergence. As time permits, additional topics may be chosen from homotopy theory, covering spaces, manifolds, and surfaces, or other topics in algebraic or set topology.

†495-496. Honors. Fall and Spring (3, 3) Staff.

Students admitted to Honors Study in Mathematics will be enrolled in this course during both semesters of their senior year. The course comprises:

- (a) supervised research in the student's special area of interest;
- (b) presentation by April 15 of an Honors Thesis; and
- (c) satisfactory performance in a comprehensive oral examination in the field of the student's major interest.¹

GRADUATE PROGRAM

The department offers the degrees of Master of Arts and Master of Science in Operations Research and Mathematics. For degree requirements, and a full description of graduate courses in mathematics, write to the department chair for a graduate catalog.

Military Science

PROFESSOR LIEUTENANT COLONEL HARRIS (Chair). ASSISTANT PROFESSORS CAPTAIN KILPATRICK, CAPTAIN PETITT, CAPTAIN THRALLS and MAJOR TURNER.

A unit of Reserve Officers Training Corps was established at the College of William and Mary on July 1, 1947, with an assigned mission to qualify men and women for positions of leadership and management in the Armed Forces. By participating in the ROTC elective program, a student may earn a commission as a Second Lieutenant in the Regular Army, the United States Army Reserve, or the Army National Guard, while pursuing an academic degree. Participation includes

1. \$2,000 subsistence allowance during junior and senior years; some books and all uniforms are furnished by the Department of Military Science.
2. A leadership and management skill development program that includes education, training, and experience that prepares a student for leadership in military service or civilian life.
3. A commission as a Second Lieutenant in the United States Army.

¹For college provisions governing the admission to honors, see page 51.

MILITARY SCIENCE

4. Newly commissioned officers may request a delay in their entry on active duty in order to pursue graduate studies.

Scholarships:

Four-, three-, and two-year scholarships are available. Students compete for over 12,000 scholarships nationwide. Freshmen and sophomores may apply for the three- and two-year scholarships, respectively. The scholarship pays for

1. Tuition: Up to \$7,000 or 80% whichever is greater (annually)
2. Books
3. Most fees
4. \$100.00 per month (tax-free)

REQUIREMENTS FOR ENROLLMENT

Any full-time freshman or sophomore student who is physically qualified and not already holding a commission in any Armed Forces may enroll in the Basic Courses. Students who have had prior military service or who have completed courses in another ROTC program may be granted placement credit. Students may attend Basic Camp in lieu of taking the Basic Courses. Advanced Course students complete loyalty oath statements and contractual agreements, screening tests, and must be selected by the Professor of Military Science.

DESCRIPTION OF COURSES

(Note: Six of the eight Military Science credits count toward the 120 credits needed for graduation. The remaining two credits will appear on the student's official transcripts.)

BASIC COURSES. All Military Science courses are open to both cadets and non-cadets. The Basic Courses introduce freshmen and sophomores to the fundamentals of leadership and management while they learn about the opportunities and prospects of ROTC and commissioned service. Students complete these courses without service obligation (except Army scholarship students) while qualifying for the Advanced Program.

101. American National Security Policy. Fall (1) Staff.

Theory and studies in international threats to national security and how the United States government organizes for national defense. Study of the issues, policies, structure, and execution of national security. Analysis of organizations and functions of defense organizations.

103. Basic Leadership and Management Theory. Spring (1) Staff.

Study of basic leadership and management principles, including practical exercises. Emphasis is placed on interpersonal communication, time management, and stress management.

201. Leadership Laboratory. Fall/Spring (0) Staff.

Taken in conjunction with other Military Science courses and History 303. Presents basic leadership skills in practical situations. Emphasis on adventure training and drill and ceremonies.

202. Military Professional Ethics. Spring (1) Staff.

Introduces professional and ethical values of the profession of arms. Develops the ability to analyze the ethical dimension of conflict situations, to make ethically sound decisions, and to negotiate ethical resolution of conflicts.

301. Advanced Leadership and Management. Fall (2) Staff.

Presents problem-solving and decision-making processes. Focuses on goal setting, performance counseling, skill training, delegation, and formal staff meeting and briefing skills.

ADVANCED COURSES. These courses are designed to prepare juniors and seniors who have agreed to seek a commission to be officers in the United States Army.

302. Military Skills. Fall/Spring (0) Major Turner.

Study of general military leadership subjects to reinforce skills in preparation for

Advanced Camp. Among subjects presented are practical leadership, training techniques, marksmanship, land navigation, drill and ceremonies, and physical conditioning.

401. U.S. Military Justice and the Laws of Land Warfare. Fall (2) Staff.

Studies in the fundamentals of military justice and in civil-military relations. Emphasizes the international laws of war and military law as they relate to civilian and military communities.

402. Organizational Management Studies. Spring (1) Staff.

Advanced studies in the management of military organizations. Emphasizes long-range planning, organizational climate, staff coordination, professional development, and studies in current military leadership issues.

REQUIREMENTS FOR COMMISSIONING

There are two ways to qualify for a commission, which is granted upon graduation from the College of William and Mary:

1. Four-year program
 - a. Complete all of the above courses in sequence, one during each semester.
 - b. Attend a six-week Advanced Camp during the summer between junior and senior years.
 - c. Be enrolled in a one-hour leadership laboratory each semester.
 - d. Complete History 303 and any psychology course.
2. Two-year program
 - a. Attend a six-week Basic Camp during the summer between sophomore and junior years. This attendance validates the Basic Courses.
 - b. Complete all the above Advanced Courses.
 - c. Attend a six-week Advanced Camp during the summer between junior and senior years.
 - d. Be enrolled in a one-hour leadership laboratory each semester of the junior and senior years.
 - e. Complete History 303, MS 202, and any psychology course.

CAREER PLACEMENT

Graduates who have completed the Military Science electives may be commissioned as Second Lieutenants in the United States Army. They perform their service in one of two ways:

1. **Reserve Forces Duty.** Officer is given a leadership position in the National Guard or U.S. Army Reserves. This option, which may be guaranteed in writing to the William and Mary student, includes
 - a. Attendance at Officer Basic Branch School.
 - b. Part-time service with pay while pursuing full-time civilian career (six years with unit, two years on inactive rolls).
2. **Active Duty.** Officer is given a leadership position in an active Army unit. This option includes
 - a. Attendance at Officer Basic Branch School.
 - b. Three years' full-time service on active duty (four years for scholarship students). Officers may request to remain on active duty.
 - c. Two years' part-time service in a Reserve unit, followed by two years' service on the inactive list.

Modern Languages and Literatures¹

PROFESSORS ST. ONGE (Chair), DIDUK, FRASER, LAVIN, and MONSON. ASSOCIATE PROFESSORS CLOUTIER, EGER, FUNIGIELLO, GREENIA, GRIFFIN, HALLETT, NETICK, ROBEDO (PALMAZ), G. SMITH, J. SMITH, TRIOLO, and WELCH. ASSISTANT PROFESSORS BUCK, CATE-ARRIES, FIELD, HOULE, KELLEY, LONGO, and MATHER. INSTRUCTORS ARRIES and KULICK. LECTURERS KOSTOVSKY, UZUHASHI, and WOODBURY.

THE PROGRAM IN MODERN LANGUAGES AND LITERATURES

Courses in the 100 and 200 groups are designed to give a well-rounded linguistic

¹The proficiency requirements for foreign languages are indicated on page 42. All languages requirements for a degree should begun in the freshman year.

MODERN LANGUAGES AND LITERATURES

experience, including the spoken as well as the written language, and to develop an awareness and appreciation of other cultures. Language laboratory is an integral part of elementary and certain intermediate courses.

A student who has started a language in high school and wishes to continue that language at the level of 202 or below will be placed according to performance on the reading Achievement Test in that language. In most cases students will be bound by the results of the test and will not be permitted to begin at either a higher or lower level than is indicated by performance on these tests unless they receive permission from the Chair of the Department. Students having three high school units may not take 101-102 or 101X-102X in that language for credit.

Courses in the 300 and 400 groups are designed to give further experience in the principal facets of language study, a reasonable knowledge of literature and civilization, and some experience in literary criticism. Classes are generally conducted in the foreign language.

For those who show a special interest in French, German, Italian, or Spanish, the College has established language houses where such students may request residence with others who share an interest in the foreign idiom and culture. Foreign students in residence provide an opportunity for unstructured language learning as well as a source of information on current living in the target language countries.

CONCENTRATION

The Department's programs of concentration in French, German, and Spanish offer a wide range of language and literature courses to students who are preparing for graduate study in literature or comparative literature, or to those who enjoy the study of foreign literatures, their style and ideas, their intellectual stimulation and humanizing influence. Ample training in the use of analytical methods in their approach to textual criticism enhances this solid liberal background for eventual professional studies. Additionally, courses provide a knowledge of the language, of its morphology and syntax, acquired concomitantly with fluency and correctness in oral and written expression. The Department's offerings are of interest to concentrators contemplating graduate work in linguistics or to those fulfilling requirements in an additional major field such as English or a second foreign language, history, or the political and social sciences. The programs offer students an opportunity to be better prepared for industry, commerce, government and public services. Majoring students preparing for a career in the secondary school teaching of foreign languages will find especially in the advanced language classes a necessary complement to their vocational courses. Many students are using the double-major option, combining modern languages with the social sciences and the humanities.

Concentrators in Modern Languages and Literatures are required to take at least two college courses in a second foreign language.

Specific concentration requirements for French, German, and Spanish can be found with course listings of each language.

A student must earn a grade of C or better on the writing component of one French, German, or Spanish course numbered 301 or larger, to be selected by the student from a departmental listing of approved courses. Approval of the instructor at the beginning of the semester is required for a student to use a course to meet the writing requirement.

INTERDISCIPLINARY PROGRAMS

The Department is actively engaged in courses of comparative literature and in interdisciplinary programs. In relating their language skills to the exploration of topics which transcend national boundaries, the students obtain a broad view of the European, Asian, and Latin communities.

Comparative Literature 201, 202 may be combined with any courses in the Modern Languages and Literature Department labelled (S) in order to make a sequence of Comparative Literature.

The suitability of the Department's offerings to an Interdisciplinary concentration is further enhanced by the literature courses in translation which extend the vast areas of Chinese, French, German, Italian, Spanish, and Russian literature otherwise not readily available to students who do not major in language study.

TOPICS IN MODERN LANGUAGES

360. Topics in Modern Languages, Literature and Cultures. Spring (3) Staff. Prerequisite: As required each year.

The topic of this course will vary from year to year, but will cover material related to literary, linguistic, or cultural aspects of world civilizations.

CHINESE

Those who plan to concentrate their studies in Chinese may pursue their interest under the interdisciplinary major of East Asian Studies (see p. 117).

101-102. Elementary Chinese (Mandarin). Fall and Spring (4, 4) Field.

Students who have acquired 3 high school units in Chinese may not take 101-102 for credit. Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the drill Class, and two sessions in the language laboratory.

201-202. Intermediate Chinese (Mandarin). Fall and Spring (4, 4) Field. Prerequisite: Chinese 101 and 102, and two drill hours.

Training in conversation, grammar, reading and elementary composition. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

300. Chinese Studies in Beijing Program. (AS) Fall Semester in Beijing (3) Beijing Staff. Prerequisite: Chinese 202 and acceptance by Selection Committee.

This number is intended for courses completed in China. Intensive oral-aural training at the advanced level.

301-302. Advanced Chinese. (AS) Fall and Spring (3, 3) Field. Prerequisite: Chinese 202 or permission of instructor.

Continued training in conversation, grammar and composition with special emphasis on reading. Three hours in the Masters Class, one session in the language laboratory.

303. Topics in Chinese Language, Civilization or Literature. (AS) Fall Semester in Beijing (3) Beijing Staff. Prerequisite: Chinese 202 and acceptance by Selection Committee.

This course is offered every fall in Beijing. Topics include current newspaper readings, radio broadcast comprehension, and radio plays. Course may be repeated for credit if the topic varies.

309. Survey of Chinese Literature in English. (AS) Fall (3) Canning. (Same as Comparative Literature 203).

An introduction to major works of traditional and modern Chinese literature, including the Confucian classics, poetry, drama, short stories and the novels.

310. Chinese Lyric Poetry and the Western Romantic Tradition. (S) Spring (3) Field. (Same as Comparative Literature 310.)

An exploration of the origin and development of subjective expression in classical Chinese poetry and a similar investigation of Romanticism in the West.

410. Advanced Topics in Chinese Language, Civilization or Literature. (S) Fall or Spring (3) Staff. Prerequisite: Chinese 302 or 303 and permission of department.

An in-depth study of a limited topic in Chinese language, civilization or literature. Topics include classical Chinese language and Chinese cinema. This course may be offered locally at the College or abroad in the Chinese Studies in Beijing Program. Course may be repeated for the credit when topics differ.

411. Independent Study. Fall or Spring (3) Field. Prerequisite: Chinese 302 or 303 and permission of instructor.

This course is designed to permit an in-depth study of the Chinese language or literature not available in current course offerings. A written petition to the instructor and approval of the Department Chair is required before registration.

MODERN LANGUAGES AND LITERATURES

FRENCH

Requirements for Concentration

Concentration in French requires a minimum of 33 hours of course work chosen as follows:

1. French 301, 302, 305, and either 307 or 308 or 309 required of all concentrators.
2. Four advanced literature courses chosen from among the following: 311, 312, 321, 322, 331, 332, 341, 342, 350, 351, 352, 385, 411, 431, 450.
3. Three courses in either language, civilization or literature numbered 300 or above.

As indicated above, French concentrators are required to take at least two college courses in a second foreign language.

In selecting a program of studies in fulfillment of a concentration in French students are strongly urged to consult the Faculty Advisor assigned to them.

Requirements for the Minor

A minor in French requires a minimum of 18 credit hours, including 301 or 302, and 305 or 307 or 308 or 309, 12 additional credit hours at the 300 level or above, and no more than two from 307, 308, 309 sequence. Students may not take 386 or 388 as part of a minor in French.

Competency in French

Students concentrating in Fine Arts, in the Social Sciences, or those who select an interdisciplinary program such as International Studies, Western European Studies, Comparative Literature and who wish primarily to acquire competency in French will find a variety of French courses designed to give them the competency they seek. After having completed French 205 or 206 the following sequence is recommended: 305, 306, 406, 407, 408.

ALTERNATE SCHEDULE OF COURSES

Advanced courses in French (numbered 300 and above) are offered according to the following schedule:

1988-89		1989-90	
<i>Fall</i>	<i>Spring</i>	<i>Fall</i>	<i>Spring</i>
301	302	301	302
305	305	303	305
306	306	305	306
310	332	306	308
312	341	307	311
321	351	322	331
342	385	350	352
406	388	406	388
407	406	408	406
	410	450	431
	450		450

DESCRIPTION OF COURSES

101-102. Elementary French. *Fall and Spring* (4, 4) Staff.

Students who have acquired 3 high school units in French may not take French 101-102 for credit. Training in grammar, pronunciation, and aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

201. Intermediate French I. *Fall* (4) Staff. Prerequisite: French 102 or placement by SAT score.

A review of basic French grammar through development of writing, speaking, comprehension, and reading skills. Three class hours, two laboratory sessions.

202. Intermediate French II. Fall and Spring (4) Staff. Prerequisite: French 201 or placement by SAT score or by the department.

Continued review of basic French grammar through development of writing, speaking, and comprehension skills, with additional emphasis on cultural and literary readings. Three class hours, two laboratory sessions.

205. Intermediate Syntax and Composition. Fall and Spring (3) Staff. Prerequisite: Four high school units, or French 202 or permission of the instructor.

Review of main principles of syntax and introduction to composition.

206. Intermediate Conversation. Fall and Spring (3) Staff. Prerequisite: French 205 or permission of the instructor.

Intensive oral-aural training. Discussions of topics in French life and culture; student presentations.

207. Intermediate Readings in French Literature. (AS) Fall (3) Staff. Prerequisite: four high school units or French 202 or permission of instructor.

A course in reading and literary analysis designed as an introductory step to the 300 level courses in literature.

300. French Studies in the Montpellier Summer Program. (AS) Summer or Preliminary session of Junior Year Abroad (3) Montpellier Staff. Prerequisite: French 205 and acceptance by Selection Committee.

This number is intended for courses completed in France.

301. Survey of French Literature: Poetry and Theatre. (AS) Fall (3) Staff. Prerequisite: Placement by SAT score or French 202 or permission of instructor.

A study of the historical development of verse and drama in France through representative texts.

302. Survey of French Literature: Prose. (AS) Spring (3) Staff. Prerequisite: French 202 or placement by SAT score or permission of instructor.

A study of the historical development of prose in France through representative texts.

303. Topics in French Language, Civilization or Literature. (AS) Summer Program in Montpellier (3) Staff. Prerequisite: French 205 or permission of instructor.

This course may be offered during a regular semester and is offered every summer by the Professor-in-Charge of the Summer Program in Montpellier. Topic will be indicated in the schedule of classes. Course may be repeated for credit if topic differs.

305. Advanced Grammar and Explication de Texte. (AS) Fall and Spring (3) Staff. Prerequisite: French 205 or permission of instructor.

Advanced syntax and intensive written work.

306. Advanced Conversation. (AS) Fall and Spring (3) Staff. Prerequisite: French 205 or 206 or permission of instructor.

Intensive oral-aural training.

307, 308, 309. French Civilization I, II, III. (AS) (3) Palmaz. Prerequisite: French 205 or 206 or 207 or 301 or permission of instructor. (Not offered 1988-89).

French Civilization I—Study of the evolution of French civilization (history, fine arts, music, architecture, etc.) from early times to 1643.

French Civilization II—Study of the evolution of French civilization from 1643 to the 1900.

French Civilization III—Study of the history, fine arts, politics, institutions, and everyday life of twentieth-century France.

310. French Cinema. (AS) Offered Fall 1988 (3) Monson. Prerequisite: French 207 or 301 or 302 or permission of instructor.

History of the French cinema, especially since 1945, including an introduction to film technology and esthetics. Two class hours, two laboratory hours. This course is taught in French. This course cannot be included in the 33 hours required for concentration.

311. The Middle Ages. (AS) Offered Spring 1990 (3) Monson. Prerequisite: French 301 or 302 or permission of instructor.

A study of French literature up to 1500: representative works. (Most texts are read in modern French translation.)

312. The Renaissance. (AS) Offered Fall 1988 (3) Hallett. Prerequisite: French 301 or 302 or permission of instructor.

A study of the major writers of the French Renaissance.

321. Seventeenth-Century French Literature I. (AS) Offered Fall 1988 (3) Houle. Prerequisite: French 301 or permission of instructor.

Mostly theatre, chosen from among plays by Corneille, Molière, and Racine, and other works by major authors such as La Fontaine, Descartes, Lafayette, Sévigné, La Rochefoucauld, Perrault, Scudéry, La Bruyère, Boileau, and Pascal.

322. Seventeenth-Century French Literature II. (AS) Offered Fall 1989 (3) Houle. Prerequisite: French 301 or permission of instructor.

Selection of appropriate works from major writers of the seventeenth-century organized by a specific theme, genre, or mode.

331. Eighteenth-Century French Literature I. (AS) Offered Spring 1990 (3) Welch. Prerequisite: French 301 or 302 or permission of the instructor.

Study of the novel and the theater of the eighteenth century.

332. Eighteenth-Century French Literature II. (AS) Offered Spring 1989 (3) Welch. Prerequisite: French 302 or permission of instructor.

A study of the major writers of the French Enlightenment: Montesquieu, Voltaire, Diderot, Rousseau, and others.

341. The Nineteenth-Century: Romanticism. (AS) Offered Spring 1989 (3) P. Cloutier. Prerequisite: French 301 or permission of instructor.

A study of the major romantic writers in France.

342. The Nineteenth-Century: The Novel. (AS) Offered Fall 1988 (3) P. Cloutier. Prerequisite: French 302 or permission of instructor.

The novel of the nineteenth century: Stendhal, Balzac, Flaubert, Zola, de Maupassant and others.

350. Modern French Poetry. (AS) Offered Fall 1989(3) St. Onge. Prerequisite: French 301 or permission of instructor.

From the post-romantic poets to the present with special emphasis on Baudelaire, the Symbolists, and the Surrealists.

351. Twentieth-Century French Literature I. (AS) Offered Spring 1989 (3) St. Onge. Prerequisite: French 301 or 302 or permission of instructor.

A study of the principal novelists up to 1939: Alain-Fournier, Proust, Gide, Malraux and others.

352. Twentieth-Century French Literature II. (AS) Offered Spring 1990 (3) P. Cloutier. Prerequisite: French 301 or 302 or permission of instructor.

A study of representative writers and works since 1939: existential literature, the new novel.

385. Francophone African Theatre I. (AS) Offered Spring 1989 (3) Mather. Prerequisite: French 301 or 302 or permission of instructor.

A survey of plays representative of contemporary Francophone African theatre, from its renaissance mid-century in the Negritude movement through its creative explosion in the hands of second generation writers of the 1970's and 1980's.

386. Francophone African Theatre II. (AS) Not offered 1988-89 (3) Mather. Prerequisite: None.

See course description for French 385 above. The plays for French 386 will be read in English translation, and will not duplicate those covered in French 385. This course cannot be included in the 33 hours required for concentration.

388. Twentieth-Century French Novel and Its Influence in English Translation. (AS) Offered Spring 1989 (3) Staff. Not open to concentrators in French. Same as Comparative Literature 304.

A study of trends in the Modern French novel through selected readings of significant contemporary writers. The course includes discussion and readings of other major European or American writers connected with the French movement.

406. Contemporary Spoken French. (AS) *Fall and Spring* (3) Staff. Prerequisite: French 306 or permission of instructor.

Intensive training in the contemporary French idiom.

407. French Phonetics and Diction. (AS) *Offered Fall 1988* (3) Kulick. Prerequisite: French 205 or 206 or permission of instructor.

Intensive study of phonetics, with particular attention given to the exceptions to the "rules" of French pronunciation and to individual problems. Recommended for students who expect to teach French in high school.

408. Advanced vWriting Stylistics and Translation. (AS) *Offered Fall 1989* (3) St. Onge. Prerequisite: French 305 or permission of instructor.

An intensive course in writing and language analysis. Basic concepts in stylistics applied to writing in French and to the problems of translation.

410. French Philology. (AS) *Offered Spring 1989* (3) Monson. Prerequisite: French 305 or permission of instructor.

An introduction to French historical linguistics, including the history of the language, historical grammar, and the study of Old and Middle French texts.

411. Independent Study. *Fall or Spring* (var.) Staff.

This course is designed to permit an in-depth study in an area of literature not available in current course offerings. A written petition to the instructor and approval of the section coordinator are required before registration.

431. The French Theater.(AS) *Offered Spring 1990* (3) Mather. Prerequisite: French 301 or 302 or permission of instructor.

A critical study of modern French theatre with attention given to both text and mise en scène.

450. Seminar in French Literature. (AS) *Fall or Spring* (3) Staff. Prerequisite: at least 9 hours of 300 or 400 literature courses.

Recommended for concentrators who expect to continue with graduate study. A study in depth of a limited literary topic. Students will write and present papers for critical discussion.

Topic for Spring 1989: Psychoanalytic and Feminist Approaches to Literary Theory. Houle.

A study of issues of representation, semiology, and narrative strategy, with a focus on psychoanalytic and feminist approaches to the text. Literary and theoretical works will be considered. In English.

Topic for Fall 1989: Michel de Montaigne. Hallett.

An examination of the evolution of the *Essais* of Michel de Montaigne, creator of the personal essay form, from a literary and philosophical point of view.

495-496. Honors. *Fall or Spring* (3.3) Staff. (see page 51).

GERMAN

Requirements for Concentration

Thirty semester credits are required for concentration in German, including German 301, 302, 303, 305 or 306, 307, 308, at least three 400-level courses, and one other course above 202 (exclusive of courses in English translation). As indicated above, concentrators in German are required to take at least two college courses in a second foreign language.

Requirements for the Minor

A minor in German requires a minimum of 21 credit hours in courses above 202 (exclusive of courses in English translation). At least two courses must be taken in each of the following areas:

- I. Language skills (German 205, 206, 305, 306)
- II. Civilization (German 307, 308, 406)
- III. Literature (German 208, 301, 302, 303, all 400-level courses except 406 and 408)

The recommended sequence of courses for concentrators and for minors is indicated by the prerequisites given for each course. These prerequisites may be waived, however, provided the student receives permission to do so from the course instructor and the Coordinator for German.

DESCRIPTION OF COURSES

101-102. Elementary German. *Fall and Spring* (4, 4) Staff.

Students who have acquired 3 high school units in German may not take German 101-102 for credit.

Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. *Three hours in the Master Class, two hours in the Dirll Class, and two sessions in the language laboratory.*

German 201. Intermediate German. *Fall* (4) Staff. Prerequisites: German 102 or equivalent.

Readings of German cultural and literary texts. Review of grammar.

German 202. Intermediate German. *Fall and Spring* (4) Staff. Prerequisite: German 201 or equivalent.

Continuation of 201 with more emphasis on reading and composition.

German 205. Intermediate Grammar and Composition. *Fall and Spring* (3) Eger. Prerequisite: German 202 or equivalent.

Composition. Review and expansion of grammar.

206. Intermediate Conversation. *Fall and Spring* (3) Diduk. Prerequisite: German 202 or equivalent.

Phonetics; intensive comprehension and conversation training; discussion of topics in contemporary German life and culture.

208. Introduction to German Literature. (AS) *Fall and Spring* (3) Staff. Prerequisite: German 202 or equivalent.

An introductory course in critical reading and writing in German, designed to increase the student's understanding and appreciation of the art of literature. May be used as an introductory step to the 300 courses.

300. German Studies in the Muenster Summer Program. (AS) *Summer* (3) Staff. Prerequisite: Acceptance in the Muenster Summer Program.

This number is intended for directed study courses in Germany. May be repeated for credit.

301. German Literature from the Beginning to 1700. (AS) *Spring* (3) J. Smith. Prerequisite: German 208 or 307.

A survey of German literature from its beginning to the end of the Baroque.

302. German Literature from 1700 to 1832. (AS) *Spring* (3) Staff. Prerequisite: German 208 or 307.

A survey of German literature covering the periods of Enlightenment and Classicism.

303. German Literature from 1832 to 1945. (AS) *Fall* (3) G. Smith. Prerequisite: German 208 or 308.

A survey of German literature covering the periods of Young Germany, Poetic Realism, Naturalism, Impressionism, Expressionism and the Weimar Republic.

305. Advanced Grammar, Composition and Conversation. (AS) *Fall and Spring* (3) J. Smith. Prerequisite: German 205 or 206.

Advanced training in grammar, composition and conversation.

306. Advanced Writing, Stylistics and Translation. (AS) *Spring* (3) G. Smith. Prerequisite: German 205 or 206.

An intensive course in writing and language analysis. Basic concepts in stylistics applied to writing in German and to the problems of literary and professional translation.

307, 308. The German Speaking Peoples and Their Civilization I and II. (AS) *Fall and Spring* (3, 3) Diduk. Prerequisite: German 206 or 208.

This course presents the most important elements of Germanic civilization and is designed as an introductory step to other 300-level courses. It includes illustrated lectures, readings, and films. The first semester covers the period up to 1800; the second, from 1800 to the present.

397, 398. Modern German Authors in English Translation. (AS) *Fall and Spring* (3, 3) Staff. Open to concentrators in German as an elective. Courses may be repeated for credit when topics vary.

The study in depth of a significant German writer or writers of modern times.

Courses 401 through 409 are offered in alternate years.

401. Goethe. (AS) *Fall 1988* (3) Eger. *Prerequisite:* German 302.

Reading and interpretation of Goethe's works with emphasis on the pedagogical and philosophical aspects.

402. German Poetry. (AS) *Fall 1988* (3) Kelley. *Prerequisite:* One of the 300-level courses in German literature or culture.

Reading and interpretation of outstanding poetic works from the seventeenth century to the present.

403. German Drama from Romanticism to 1945. (AS) *Spring 1989* (3) Staff. *Prerequisite:* German 302 or 303 or 308.

A study of German drama from Romanticism to Expressionism and the epic theater, emphasizing such authors as Grillparzer, Hebbel, Hauptmann, Zuckmayer and Brecht.

404. Twentieth Century German Literature. (AS) *Spring 1989* (3) Eger. *Prerequisite:* German 303.

An intensive study of the literature of our own age, with emphasis on the drama and the novel since 1945.

German 405. 20th Century German Women Writers. (AS) *Fall 1989* (3) Diduk.

Reading and Interpretation of literature written by 20th century women in Germany (West and East), Austria, and Switzerland.

406. History of the German Language. (AS) *Fall 1989* (3) Kelley. *Prerequisite:* German 307.

A study of the history of the German language from its origins to the present.

407. The German Novelle. (AS) *Spring 1990* (3) Eger. *Prerequisite:* German 302 or 303 or 308.

An intensive study of the German Novelle and its theory from the Romantic Age to 1945, encompassing such authors as Tieck, Kleist, Droste-Hulshoff, Storm, Keller and Thomas Mann.

409. GDR Literature. (AS) *Spring 1990* (3) Diduk.

A study of selected East German novels and short stories, with emphasis on the reflection of the social system in literature.

410. Special Topics in German Literature. (AS) *Spring 1989* (3) Staff. *Prerequisite:* One 300-level course in German literature or culture.

An in-depth study of a limited topic in German literature or in the relationship between literature and other disciplines. Course may be repeated for credit when topics differ.

411. Independent Study. *Fall or Spring* (var.) Staff. *Prerequisite or corequisite:* two other 400-level German courses. (401-410)

This course is designed to permit an in-depth study in an area of literature not available in current course offerings. A written petition to the instructor and approval of the Coordinator for German are required before registration.

495-496. Honors. *Fall and Spring* (3, 3) Staff. (see page 51). *Prerequisite or corequisite:* two other 400-level German courses (401-410).

ITALIAN

Requirements for an Interdisciplinary Minor in Italian Studies.

An Interdisciplinary Minor in Italian Studies requires a minimum of 18 credit hours. 9

MODERN LANGUAGES AND LITERATURES

credits from the Italian Area must include Italian 301 or 302 plus 6 additional credit hours from Italian 300, 301, 302, 303, 305, 306, 307, 309, 310, 312. The remaining 9 credit hours must include courses from at least two other departments or programs and may be chosen from among the following courses:

Fine Arts: 405, 406, 454

Music: 363, 381

Comparative Literature: 309, 490 when applicable.

History: 313

101-102. Elementary Italian. Fall and Spring (4, 4) Staff. Students who have acquired 3 high school units of Italian may not take Italian 101-102 for credit.

Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

200. Italian Studies in the Florence Summer Program: Language and Literature. Summer (3) Staff. Italian language and literature courses taken in the summer program abroad. Prerequisite: acceptance by selection committee.

This number is intended for courses completed in Italy.

201. Intermediate Italian. Fall (4) Staff. Prerequisites: Italian 101-102 or placement by SAT score or permission of Department.

A review of basic Italian grammar through development of writing, speaking, comprehension, and reading skills. Three (3) class hours and two (2) lab sessions.

202. Intermediate Italian II. Spring (4) Staff. Prerequisite: Italian 201 or placement by SAT score or permission of Department.

A review of basic Italian grammar through development of writing, speaking, and comprehension skills, with additional emphasis on cultural and literary selections. Three (3) class hours and two (2) lab sessions.

206. Intermediate Conversations. Spring (3) Funigiello. Prerequisite: Italian 201 or 202 or the equivalent; permission of the instructor.

Oral-aural training; discussions of topics in contemporary Italian life and culture.

300. Italian Studies in the Florence Summer Program. Summer (3) Florence Staff. Courses taken in the summer program abroad. Prerequisite: acceptance by selection committee.

This number is intended for courses completed in Italy.

301. Masterpieces of Italian Literature from the Beginnings to the 17th Century. (AS) Fall (3) Funigiello. Prerequisite: four high school units or 202 or the equivalent; permission of the instructor.

Survey of Italian Literature. An introduction to the major writers of Italy from the 13th to the 17th century, including such authors as Dante, Petrarch, Boccaccio, Machiavelli, Ariosto, and Tasso.

302. Masterpieces of Italian Literature Since the 17th Century. (AS) Spring (3) Triolo. Prerequisite: four high school units or 202, Italian 301 or the equivalent; permission of the instructor.

Survey of Italian literature. An introduction to the major writers of Italy from the seventeenth century to the present; including such authors as Goldoni, Leopardi, Pascoli, Carducci, Manzoni, Pirandello and Moravia.

303. Topics in Italian Language, Civilization or Literature. (AS) Fall or Spring or Summer. Italian/English (All Florence courses will be offered in Italian.) (3) Staff.

This course may be offered during a regular semester or during the Summer Study Program in Florence. Topic will be indicated in the schedule of classes. The course may be repeated if topic differs.

305, 306. Directed Readings in Italian Literature. (AS) Fall and Spring (3, 3) Staff. Prerequisite: Italian 301 and 302 or the equivalent; by permission of the instructor only.

This course is designed to permit the student to pursue in depth an area of literature in which he has a major interest.

307. Italian Civilization in English. (A) Alternate Fall Semesters (3) Staff.

A topical study of Italian culture and civilization from the Middle Ages to the Republic. The course will emphasize selected outstanding movements and periods in Italian history, architecture, sculpture, painting and music.

309. Dante and the Medieval Tradition. (S) Fall Semesters (3) Triolo. (Same as Comp. Lit. 309).

Readings, in translation, and discussion of representative works and trends in Courtly Love and Scholastic traditions to focus attention on Dante's literary, esthetic and historical milieu, and achievements.

310. Italian Cinema and Post-War Italian Culture. Spring Semesters (3) Triolo.

A study of Post-War cultural developments in Italy through the medium of major Italian cinematic productions and directors. The course will focus on political, economic, social, artistic and religious developments as important manifestations of contemporary Italian culture. Knowledge of Italian desirable, but not required. Two laboratory hours, one class hour.

312. Italian Renaissance Literature in Translation. (AS) Alternate Spring Semesters (3) Staff.

The course is designed to expose the students to and offer them direct contact with the nature and form of Italian Renaissance literary and aesthetic genres and phenomena by studying relevant and available texts and authors in English translation.

JAPANESE

101-102. Elementary Japanese. Fall and Spring (4, 4) Uzuhashi.

Students who have acquired 3 high school units in Japanese may not take 101-102 for credit. Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

PORTUGUESE

101-102. Elementary Portuguese. Fall and Spring (4, 4). Fraser. Students who have acquired 3 high school units in Portuguese may not take Portuguese 101-102 for credit. (Not offered 1988-89). Knowledge of Spanish is recommended. Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

201. Intermediate Portuguese. Fall (3) Fraser. Prerequisite: Portuguese 102 or permission of instructor.

A review and continuation of the study of Portuguese grammar, incorporated with the continued development of reading, writing, speaking, and comprehension skills.

202. Intermediate Portuguese. Spring (3) Fraser. Prerequisite: Portuguese 201 or permission of instructor.

Selected readings from Portuguese and Brazilian literature.

RUSSIAN

A concentration in Russian may be pursued under Interdisciplinary Studies. (see p. 118.)

Requirements for an Interdisciplinary Minor in Russian Studies

For the Russian Studies Minor, 18 credits in Russian/Soviet-oriented courses are required. These courses must be approved by the Committee on Interdisciplinary Studies. Of the 18 credits, 15 should come from the core curriculum below, distributed in the following way:

From Area I (Literature, Culture): 9 credits

From Area II (History, Government, Economics): 6 credits

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Students may gain the remaining 3 credits of the 18 required by taking the additional courses listed under Areas I and II, or other courses congenial to the field. Some of these are listed below.

AREA I

Russian 207

Russian 301

Russian 302

Russian 387

Russian 388

AREA II

History 321

History 322

Government 334

Economics 309

Economics 482

ADDITIONAL COURSES

History 471, 472

Government 335

Russian 307, 310, 402, 397, 398

At least a reading knowledge of Russian is necessary for a minor in Russian Studies. This requirement is reflected by the courses listed in Area I. Of the three courses chosen, one will be in Russian.

101-102. Elementary Russian. *Fall and Spring* (4, 4) Staff. Students who have acquired 3 high school units of Russian may not take Russian 101-102 for credit.

Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class, and two sessions in the language laboratory.

201. Intermediate Russian. *Fall* (4) Kostovsky. Prerequisite: Russian 101-102 or placement by Achievement Test score.

A continuation of the study of basic Russian grammar. Continued development of reading, writing, speaking, and comprehension skills. Graded readings in Russian are introduced. Three class hours, two laboratory hours.

202. Intermediate Russian. *Spring* (3) Staff. Prerequisite: Russian 201 or placement by Achievement Test score.

A continuation of Basic Russian Grammar and development of reading, writing speaking and comprehension skills. Selected reading from Russian literature of the 19th and 20th centuries..

206. Intermediate Conversation. *Fall* (3) Woodbury. Prerequisite: Russian 202 or permission of the instructor.

Phonetics, intensive oral-aural training; discussion of topics in contemporary Russian-Soviet life and culture; student presentations.

207. Cultural History of Russia. (AS) *Spring* (3) Staff. Prerequisite: Russian 206 or permission of the instructor.

A course embodying the most important elements of pre-revolutionary Russian and Soviet culture and civilization.

301, 302. Survey of Russian Literature. (AS) *Fall and Spring* (3,3) Staff. Prerequisite: Four high school units or 202 or permission of the instructor.

A study of major writers of the 19th and 20th centuries. In addition to the reading and discussion of representative works, the course will involve composition and explication de texte. (Not offered in 1988-89).

305-306. Directed Reading in Russian Literature. (S) *Fall and Spring* (3, 3) Staff. Prerequisite: Russian 301 and 302 or permission of the instructor. (Not offered 1988-89).

This course is designed to permit an in-depth study in an area of literature.

307. Advanced Grammar and Composition. (S) *Spring* (3) Staff. Prerequisite: Russian 207 or permission of instructor.

Advanced syntax and intensive written work.

310. Advanced Conversation. (AS) *Spring* (3) Staff. Prerequisite: Russian 206, Intermediate Conversation.

Advanced Conversation. Discussion of literary texts and the scientific, economic and political life of the Soviet Union.

387-388. Survey of Russian Literature in English. (AS) *Fall and Spring* (3, 3) Netick.

A chronological survey of Russian literature from its beginnings through the Soviet Period, with emphasis given to the major writers of the 19th Century. (Not offered in 1988-89).

397. Dostoyevsky in English Translation. (AS) Fall (3) Staff.

A study, in English translation, of Dostoyevsky's chief works, with due attention given to the political and literary milieu in which he wrote.

398. Tolstoy in English Translation. (AS) Spring (3) Staff.

A study, in English translation, of Tolstoy's life and chief literary works.

402. Russian Poetry: 19th Century to Present. (AS) Spring (3) Woodbury. Prerequisite: Russian 301, 302 or permission of instructor.

Reading and interpretation of outstanding poetic works from the nineteenth century to the present. (Not offered in 1988-89).

SPANISH

Requirements for Concentration

Thirty semester credits are required for concentration in Spanish including Spanish 301, 302, 303, 304, 305 and at least five other additional courses at the 300 and 400 levels, excluding 397 and 398. Of these five, a minimum of two must be at the 400 level. Courses required for concentration (301, 302, 303, 304, 305) will be offered every year; other 300 and 400 level courses will normally be offered every other year. Concentrators in Spanish are required to take at least two college courses in a second foreign language.

Requirements for the Minor

A minor in Spanish requires a minimum of twenty-one semester credits, including 301, 302, 303, 304, 305, and at least six additional credits chosen from courses numbered 208 and above, with the exception of 397 and 398.

DESCRIPTION OF COURSES

101-102. Elementary Spanish. Fall and Spring (4, 4) Staff. Students who have acquired 3 high school units in Spanish may not take Spanish 101-102 for credit.

Training in grammar, pronunciation, aural-oral skills, reading and writing. The work includes intensive practice in speaking and understanding. Three hours in the Master Class, two hours in the Drill Class and two sessions in the language laboratory.

201. Intermediate Level Spanish. Fall (3, 3) Staff. Prerequisite: Spanish 101-102 or placement by Achievement Test score.

A review and continuation of the study of Spanish grammar, incorporated with the continued development of reading, writing, speaking, and comprehension skills.

202. Intermediate Level Spanish. Fall and Spring (3, 3) Staff. Prerequisite: Spanish 201 or placement by Achievement Test score.

Selected readings from Spanish and Spanish-American Literature.

205. Intermediate Grammar and Composition. Fall (3) Staff. Prerequisite: Spanish 202 or the equivalent.

Review of main principles of syntax, composition, and spoken Spanish.

206. Intermediate Conversation. Spring (3) Staff. Prerequisite: Spanish 205 or the equivalent.

Intensive oral-aural training: discussion of topics in Spanish life and culture, student presentations.

208. Fundamentals of Literary Criticism. (AS) Fall and Spring (3) Staff. Prerequisites: Spanish 202 or the equivalent.

An examination of selections of Hispanic literature to develop an understanding of methods of evaluating literary works.

301. Spanish Literature from the Beginnings to 1700. (AS) Fall (3) Greenia and Cate-Arries. Prerequisite: Spanish 208, or Spanish 202 with permission of instructor, or placement by Achievement Test score.

Survey of Peninsular Spanish literature before 1700.

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302. Spanish Literature from 1700 to the Present. (AS) Spring (3) Buck and Cate-Arnes. Prerequisite: Spanish 208, or Spanish 202 with permission of instructor, or placement by Achievement Test score.

Survey of Spanish Peninsula literature since 1700.

303. Latin-American Literature of the Colonial Period. (AS) Fall (3) Griffin. Prerequisite: Spanish 208, or permission of instructor, or placement by Achievement Test score.

Survey of Latin-American Literature from its beginnings to the end of the colonial period.

304. Latin-American Literature from the Colonial Period to the Present. (AS) Spring (3) Griffin. Prerequisite: Spanish 208 or permission of the instructor.

Survey of Latin-American Literature from the end of the colonial period to the present.

305. Advanced Grammar, Composition and Conversation. (AS) Fall and Spring (3) Cate-Arries and Greenia. Prerequisite: Spanish 205 or permission of instructor, or placement by Achievement Test score.

Intensive review of syntax and composition combined with oral-aural training.

307, 308. Cultural History of Spain. (AS) Fall and Spring (3, 3) Lavin. Prerequisite: Previous or current enrollment in Spanish 301, or permission of the instructor. Completion of History 101-102 is encouraged.

A survey of artistic and literary trends as they relate to the history of Spain.

310. Seminar in Spanish or Latin-American Literature. (AS) Fall (3) (Not offered in 1988-89).

397, 398. Hispanic Topics in English Translation. (AS) Fall and Spring (3, 3) Staff. Not open to concentrators in Spanish. Typically offered in summer program abroad. Not offered 1988-89.

Concentrated study of a particular author, work or area of Spanish or Spanish American culture. Specific topic to be listed each semester.

309. Cultural History of Spain during the Modern Period. (AS) Fall (3) Lavin. Prerequisite: Previous or current enrollment in Spanish 302, or permission of the instructor. Completion of History 101-102 is encouraged.

A survey of artistic and literary trends as they relate to the Modern History of Spain. (Not offered in 1988-89).

311. Cultural History of Latin America from Colonial Period to the Present. (AS) Spring (3) Longo. Prerequisite: Completion of 205 or 208, or by permission of instructor.

A survey of Latin American civilization and culture from the Colonial period to the present.

Courses in the 400 level are normally offered in alternating years.

401. Medieval Spanish Literature. (AS) Fall (3) Greenia.

Spanish literature from *El poema de mio Cid* through *La Celestina*. Study of representative works. (Not offered in 1988-89).

402. Cervantes. (AS) Fall (3)

Analysis of Cervantes' major works with particular emphasis on the *Quijote* and the *Novelas ejemplares*.

403. Spanish Literature of the Golden Age. (AS) Spring (3) Lavin.

Prose, poetry and drama of the sixteenth and seventeenth centuries from Garcilaso de la Vega to Calderon de la Barca. Study of representative works.

405. Spanish Romanticism, Realism, and Naturalism. (AS) Fall (3) Buck.

An in-depth study of representative works of Spanish Romanticism, Realism, and Naturalism.

410. Hispanic Philology: Spanish Historical Phonology. (AS) Spring (3) Greenia. Prerequisite: Spanish 305.

Scientific analysis of articulation of sounds and the study of the interrelation of Spanish and other Romance languages.

411. Independent Study. Fall and Spring (var.) Staff.

This course is designed to permit an in-depth study in an area of literature not availa-

ble in current course offerings. A written petition to the instructor and approval of the section coordinator are required before registration.

412. Spanish Literature (1890-1936). (AS) Spring (3) Cate-Arries.

A study of the poetry, prose and drama of representative writers from the Generation of 1898 to 1936.

413. Contemporary Spanish Literature (1936-Present). (AS) Spring (3) Cate-Arries.

A study of the poetry, prose and drama of representative post-civil war writers. (Not offered in 1988-89).

414. Spanish American Short Story and Novel of the Modern Period. (AS) Fall (3) Fraser.

A study of the short story and novel in Spanish America, with particular emphasis on the development of these genres in the 20th Century.

415. Spanish American Lyric Poetry of the Modern Period. (AS) Fall (3) Longo.

A study of the lyric poetry of Spanish America, with particular focus on the evolution of the genre in the 19th and 20th Centuries. (Not offered in 1988-89).

416. Contemporary Hispanic Drama. (AS) Spring (3) Staff.

A study of representative dramatic works from Spain and Spanish America in the contemporary period. (Not offered in 1988-89).

495-496. Honors. Fall or Spring (3, 3) Staff. (see page 51.)

Music

ASSOCIATE PROFESSOR COCKRELL (Acting Chair). PROFESSOR LENDRIM. ASSOCIATE PROFESSORS FREEMAN, GUTWEIN, E. WILLIAMS. ASSISTANT PROFESSORS DeFOTIS. LECTURERS BOURQUE, CARLSON, CONNOLLY, CROSS, DARLING, M. FLETCHER, R. FLETCHER, HEDGES, HERBISON, KESTER, KOLLER, LASHINGER, LENDVAY, LINDBERG, MARSHALL, MOTT, OLBRYCH, STEVENS, VERNON, WALKER, WICK, C. WILLIAMS, and ZWELLING. DIRECTOR OF BANDS ETHERIDGE. DIRECTOR OF ORCHESTRAS SUBEN.

The Department of Music offers concentration for students interested in a liberal arts program with emphasis on music and for students preparing for graduate work in musicology, composition, theory, or music performance.

REQUIREMENTS FOR CONCENTRATION

A concentration in Music requires 34 credits, to be distributed as follows: 14 credits in Music Theory (201, 202, 201L, 202L, 301, 302); 12 credits in Music History (311, 312 and two more courses to be selected from 361-395, 420, or 465); and 8 credits in a single performance area. Concentrators must have completed at least two semesters at the 300 or 400 level in one performance area for graduation. All concentrators in Music plan and carry out a senior project, which may be a thesis in history or theory, a substantial composition presented in public performance, or a recital. Music 101, 211, and 212 may not be counted for concentration.

The writing requirement for music concentrators may be fulfilled by earning a grade of C or better in the writing component of Music 311 and Music 312.

Requirements for Minor

A minor in Music requires 20 credits, which must include the following: 201-202 and 211-212 or 311-312. The remaining 6 credits may be chosen from one of the following groups: 301-302, 361-395, 420, 465, or individual instruction in applied music. If the last option is chosen, at least two semesters must be at the 300 or 400 level.

DESCRIPTION OF COURSES

THEORY

101. The Tonal Language. Fall and Spring (3, 3) E. Williams.

An introduction to functional tonality and the art of listening, covering notation,

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intervals, scales, and basic voice-leading, along with the rudiments of form, texture, and musical continuity.

107. Composition I. (A) *Fall and Spring* (3) Staff. Prerequisite: Music 101 or 201.

The student will pursue original work and engage selected analytical issues raised by this work. This course may be repeated.

201-202. Theory I. (A) *Fall and Spring* (4, 4) DeFotis and Gutwein. Corequisite: Music 201L-202L.

The study of functional tonality through composition and analysis. First semester: figured bass and chorale (J. S. Bach). Second semester: smaller musical forms (Haydn, Beethoven).

201L-202L. Theory I-Lab. *Fall and Spring* DeFotis and Gutwein.

Development of aural skills through critical listening, singing, and dictation. Subject areas include: rhythm, intervals, scales, melody, two-voice counterpoint, four-part harmony. Prerequisite for Music 301. One laboratory hour weekly. A corequisite of Music 201-202.

207. Intermediate Composition. (A) *Fall and Spring* (3) Staff. Prerequisite: Music 107 or permission of instructor.

The student will pursue original work and engage selected analytical issues raised by this work. This course may be repeated.

301-302. Theory II. (S) *Fall and Spring* (3, 3) DeFotis and Gutwein. Prerequisite: Music 202, 202L.

The continuation of the study of functional tonality begun in Music 201-202. First semester: invention and fugue (J.S. Bach). Second semester: larger musical forms (Mozart, Beethoven).

307. Advanced Composition I. (S) *Fall and Spring* (3) Staff. Prerequisite: Music 207 or permission of instructor.

The student will pursue original work and engage selected analytical issues raised by this work. This course may be repeated.

***309. Instrumentation and Orchestration.** (S) *Fall* (3) DeFotis. Prerequisite: Music 202, 202L.

The rudiments of instrumental usage: their written application to pure and mixed ensembles in general and the modern orchestra in particular. (Not offered Fall, 1988).

401-402. Theory III. *Fall and Spring* (3, 3) Staff. Prerequisite: Music 301-302.

A study of late tonal and post tonal musics through listening, analysis, written exercises, and directed work on small compositions. Recommended for those students who would like to continue their study of musical language beyond Music 302, and those interested in composition. (Not offered 1988-89).

***407. Advanced Composition II.** (S) *Fall and Spring* (3) Staff. Prerequisites: Music 307 or permission of instructor.

The student will pursue original work and engage selected analytical issues raised by this work. (This course may be repeated.)

MUSIC HISTORY AND LITERATURE

211-212. Introduction to Music History and Literature. (A) *Fall and Spring* (3, 3) Cockrell, Freeman, Lendrim, and E. Williams.

Designed to meet the needs of students without regard to previous musical training and experience. The courses trace the development of Western art music by examining various composers, styles, forms, theories, and social contexts. Music 211 covers the period through Mozart and Haydn; Music 212 covers Beethoven to the present. These courses may not be counted towards concentration.

***311-312. History of Western Music.** (A) *Fall and Spring* (3, 3) Freeman. Prerequisite or Corequisite: Music 201-202.

Fall: Western art music from the Middle Ages to the time of Haydn and Mozart. Spring: from the time of Beethoven to the present. Music will be considered in its cultural context as well as in the evolution of genres, forms, and styles. Intended for music concentrators or prospective concentrators.

361. Chamber Music. (S) Fall (3) Staff. Prerequisite: Music 211-212 or 311-312. (Not offered 1988-89.)

362. Symphony. (S) Spring (3) DeFotis. Prerequisite: Music 211-212 or 311-312. (Not offered 1988-89.)

363. Opera. (S) Fall (3) Staff. Prerequisite: Music 211-212 or 311-312. (Not offered 1988-89.)

365, 366. Keyboard Music. (S) Spring (3, 3) Staff. Prerequisite: Music 211-212 or 311-312. (Not offered 1988-89.)

369. Jazz. (S) Fall (3) Gutwein.

A survey of jazz from its origins to the present. Important social and economic influences will be examined; the music of the most influential improvisors and composers will be emphasized.

370. American Popular Song. (S) Spring (3) Cockrell.

This course traces the history of American popular song from the colonial period to c. 1970. Primary goals include an appreciation of the "American experience" as manifested in song, and the definition, nature, and implication of the "popular" in music.

381. Medieval and Renaissance Music. (S) Fall (3) Freeman. Prerequisite: Music 211-212 or 311-312.

The development of Western religious music from chant through the beginnings of polyphony to Palestrina and Byrd, and the corresponding secular growth of vocal and instrumental music. Forms, styles, composers, and modes of performance will be studied. (Not offered in 1988-89.)

383. Music of the Seventeenth and Eighteenth Centuries. (S) Spring (3) Freeman. Prerequisite: Music 211-212 or 311-312.

The beginnings and development of musical premises and styles in the Baroque and Classical eras; the special contributions of Bach, Handel, Haydn and Mozart. (Not offered in 1988-89.)

385, 386. Music of the Nineteenth Century. (S) Fall and Spring (3, 3) Lendrim. Prerequisite: Music 211-212 or 311-312.

A survey of music of the nineteenth century. Fall: Beethoven, Schubert, Wagner, Berlioz, Schumann, Mendelssohn, and Chopin. Spring: Verdi, Puccini, Brahms, Dvorak, Tchaikovsky, Bruckner, Mahler, and Strauss.

387. Music of the Twentieth Century. (S) Spring (3) Staff. Prerequisite: Music 211-212 or 311-312.

The development of European and American music from Debussy through the innovations of Stravinsky, Schoenberg, and their contemporaries, to the post-World War II avant-garde.

388. Introduction to Electro-acoustic Music. (S) Fall (3) Gutwein.

The influence of technology on musical thought from the late 1890s to the present, culminating in lecture-performances using digital instruments and processes. The works, techniques, and philosophies of major composers will be interwoven with technical explanations; however, no technical knowledge is assumed. (Not offered 1988-89.)

391. Music in America. (S) Fall (3) Cockrell.

An inclusive study of the history, culture, and literature of music in the New World. American folk, popular, sacred, and art musics will be studied. A special emphasis will be on the "American experience" and its cultural relationship to musical expression.

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393. History of English Music. (S) Spring (3) Freeman. Prerequisite: Music 211-212 or 311-312.

A history of English music and musical taste, concerned not only with composers, forms, and styles, but also with the tastes and influences of court, church, and public. (Not offered 1988-89).

395. Music Criticism. (S) Fall (3) DeFotis. Prerequisite: Music 211-212 or 311-312.

Investigation of differing ideals of music criticism, along with its social uses and possibilities, through the reading and writing of critical prose about music of various kinds. (Not offered in 1988-89).

420. Major Composers. (S) Fall or Spring (3) Staff. Prerequisite: Music 211-212 or 311-312.

Study of the music of a major composer, such as Bach, Mozart, Beethoven, or Stravinsky. The course will focus on major works with a consideration of influences, conventions, and contemporary compositions. The composer to be studied will be designated each time the course is offered.

Topic for Fall 1988: Handel (Freeman)

465. Special Topics in Music. (S) Fall or Spring (3) Staff. Prerequisite: Music 211-212 or 311-312.

Intensive exploration at an advanced level of a limited historical or theoretical topic in music. Topics to be offered will be announced in the semester previous to the one in which they are to be scheduled.

***475, 476. Projects in Music.** Fall or Spring (2-3, 2-3) Staff.

For senior music concentrators only. Directed independent study resulting in a thesis in history or theory, or a substantial composition presented in public performance.

***495-496. Senior Honors.** Fall and Spring (3, 3) Staff.

Students admitted to Honors Study in Music are expected to complete supervised work in an area of special interest. This may be in performance, theory, music history and literature, or a combination of these. Each student is to submit by April 15 an Honors Essay which in the case of performance, composition, or orchestration may be a portion of the total Honors project, and is to be examined orally on the study and closely related materials. Information about the program along with applications and examples of avenues of study are available from the chairman. Applications should be submitted by April of the junior year.¹

MUSIC PERFORMANCE

Although students may take as many credits as they wish in music performance, a maximum of 14 credits may be applied toward the degree requirements by non-concentrators.

243. Topics in Music Performance. Fall and Spring (1, 1) Staff.

Performance-oriented courses, which will change each semester, in a variety of fields. Topics for Fall 1988: Accompanying; Choral Conducting.

320. Music for Elementary School Teachers. Fall and Spring (3.3) Lashinger.

A course designed for prospective general teachers in the elementary grades. Not open to Music concentrators.

Individual Instruction

The College offers individual instruction in Voice, Piano, Organ, Strings, Woodwinds, Brass, Percussion, Guitar and Harpsichord. Instruction is given on the basis of a half-hour private lesson once a week, for one credit per semester, with the expectation of one hour of daily practice. Advanced students are encouraged to take one-hour practice les-

¹For college provisions governing the admissions to honors, see p. 51.

son once a week, for two credits per semester, with the expectation of two hours of daily practice. Each course may be repeated. Suggested repertory sheets are available for each field and level.

NOTE: An additional fee is charged for these lessons. Students at the 400 level are exempt from paying the Applied Music fee up to the limit of four credit hours. For the amount of this fee, see Special Fees on page .

*Voice 151-451. Connolly, M. Fletcher, and R. Fletcher.

- 151. Elementary Voice. *Fall and Spring* (1-2)
- 251. Intermediate Voice. *Fall and Spring* (1-2)
- 351. Advanced Voice I. *Fall and Spring* (1-2)
- 451. Advanced Voice II. *Fall and Spring* (1-2)

*Piano 152-452. Lendvay, Stevens, Vernon, C. Williams, and Zwelling.

- 152. Elementary Piano. *Fall and Spring* (1-2)
- 252. Intermediate Piano. *Fall and Spring* (1-2)
- 352. Advanced Piano I. *Fall and Spring* (1-2)
- 452. Advanced Piano II. *Fall and Spring* (1-2, 1-2)

*Organ 153-453. Darling, Koller, and Marshall.

- 153. Elementary Organ. *Fall and Spring* (1-2)
- 253. Intermediate Organ. *Fall and Spring* (1-2)
- 353. Advanced Organ I. *Fall and Spring* (1-2)
- 453. Advanced Organ II. *Fall and Spring* (1-2)

*Strings 154-454. Mott, Herbison, and Walker.

- 154. Elementary Strings. *Fall and Spring* (1-2)
- 254. Intermediate Strings. *Fall and Spring* (1-2)
- 354. Advanced Strings I. *Fall and Spring* (1-2)
- 454. Advanced Strings II. *Fall and Spring* (1-2)

*Woodwinds 155-455. P. Carlson, Cross, and Kester.

- 155. Elementary Woodwinds. *Fall and Spring* (1-2)
- 255. Intermediate Woodwinds. *Fall and Spring* (1-2)
- 355. Advanced Woodwinds I. *Fall and Spring* (1-2)
- 455. Advanced Woodwinds II. *Fall and Spring* (1-2)

*Brass 156-456. Bourque and Wick.

- 156. Elementary Brass. *Fall and Spring* (1-2)
- 256. Intermediate Brass. *Fall and Spring* (1-2)
- 356. Advanced Brass I. *Fall and Spring* (1-2)
- 456. Advanced Brass II. *Fall and Spring* (1-2)

*Percussion 157-457. Lindberg.

- 157. Elementary Percussion. *Fall and Spring* (1-2)
- 257. Intermediate Percussion. *Fall and Spring* (1-2)
- 357. Advanced Percussion I. *Fall and Spring* (1-2)
- 457. Advanced Percussion II. *Fall and Spring* (1-2)

*Guitar 158-458. Olbrych.

- 158. Elementary Guitar. *Fall and Spring* (1-2)
- 258. Intermediate Guitar. *Fall and Spring* (1-2)
- 358. Advanced Guitar I. *Fall and Spring* (1-2)
- 458. Advanced Guitar II. *Fall and Spring* (1-2)

*Harpsichord 159-459. Darling and Marshall.

- 159. Elementary Harpsichord. *Fall and Spring* (1-2)
- 259. Intermediate Harpsichord. *Fall and Spring* (1-2)
- 359. Advanced Harpsichord I. *Fall and Spring* (1-2)
- 459. Advanced Harpsichord II. *Fall and Spring* (1-2)

Ensemble

*130. Marching Band	Fall (1) Etheridge
*131. Concert Band	Fall and Spring (1, 1) Etheridge
*132. Choir	Fall and Spring (1, 1) Lendrim
*133. Chorus	Fall and Spring (1, 1) Lendrim
*134. Orchestra	Fall and Spring (1, 1) Suben
*135. Small Ensembles	Fall and Spring (1, 1) Bourque (Brass), P. Carlson (Woodwinds), Herbison (Strings), Lindberg (Percussion), Olbrych (Classical Guitar), Kester (Woodwinds).

Philosophy

PROFESSORS JONES (Chair), COBB, FUCHS, J. HARRIS, and McLANE. ASSOCIATE PROFESSORS BOHL, FOWLER, and G. HARRIS. ASSISTANT PROFESSORS CUNNINGHAM¹, KNEZEVICH, and MONTALDI¹.

The Department, through a varied and extensive program of courses, presents students with past and present attempts to think critically and reflectively about fundamental questions of knowledge and value in order that they will be led to examine their own views. The study of philosophical problems in the spirit of free inquiry requires the student to develop and exercise the powers of precise discrimination, creative imagination, logical organization, and evaluative judgment.

Several sections of the introductory course are offered. Some use a topical and the others an historical approach to the problems of philosophy. A large number of middle-level courses are offered to meet the needs of students who wish to sequence in philosophy or who wish to take courses that might be particularly relevant to their own field of concentration. Many philosophy courses are particularly suited to the needs of students with Interdisciplinary Concentrations. The department also offers specialized and intensive courses of a historical, methodological, and systematic character for those students who wish to concentrate in philosophy. A concentration may serve as a preparation for graduate study, or, as is more usually the case, as a sound foundation for a liberal education. Many concentrators go into professions such as law, where training in philosophical analysis is particularly advantageous.

REQUIREMENTS FOR CONCENTRATION

A student whose aim is to use a concentration in Philosophy as a basis for a liberal education may take the minimum concentration requirement of thirty hours in the Department. Those who wish to prepare for graduate study in philosophy or in a related discipline will normally take more than this required minimum. A program for each concentrator will be developed through consultation with members of the philosophy faculty, but each such program must include: (1) At least two courses selected from among Philosophy 322, 323, 324, 331, 332, 333, 350, and 351; (2) At least one course selected from among Philosophy 313, 314, 321, 336, 401, 404, 405, 406, and 413; and (3) At least two 400-level courses. (400 level courses satisfying requirement (2) may also be used to satisfy requirement (3)). The Concentration Writing Requirement in Philosophy is satisfied by obtaining a grade of C or better in any two 400-level philosophy courses. Philosophy 301 is recommended, especially for those students who contemplate graduate study in Philosophy. Concentrators are strongly encouraged to complete requirements (1) and (2) by the end of the junior year. A minor in Philosophy is also offered. A listing of requirements is available from the department office.

DESCRIPTION OF COURSES**201. Introduction to Philosophy.** (A) *Fall and Spring Staff.*

An introduction to the problems, methods, and scope of philosophical inquiry through readings from historical and contemporary sources.

NOTE: Seniors and students who have taken 101 or 102 may take this course only with the permission of the instructor.

¹Visiting Assistant Professor, 1988-89.

210. Introduction to Critical Thinking. (A) *Fall and Spring* (3) Bohl, Cobb.

A survey of formal and informal logical techniques with emphasis on their practical applications and historical significance. Among the techniques studied are syllogistic logic, informal fallacies, and induction.

301. Symbolic Logic. (S) *Fall and Spring* (3) Knezevich and J. Harris.

An introduction to the principles of valid reasoning. Special emphasis will be given to modern symbolic techniques and some of their applications.

303. Ethics. (AS) *Fall and Spring* (3) G. Harris, Cunningham and Montaldi.

An introduction to the problems of ethics and the nature of ethical reasoning. Included are historically important topics such as hedonism, egoism, utilitarianism, and relativism, as well as contemporary moral issues such as abortion, euthanasia, and civil disobedience.

304. Aesthetics. (AS) *Fall* (3) Bohl.

A philosophical examination of aesthetic perception and criteria of value. Special attention will be given to the elements of art and the function of form, symbol, expression, and truth in art.

305. Social and Political Philosophy. (AS) *Fall* (3) Cunningham.

A philosophical examination of major social and political concepts such as authority, justice, law, obligation, and rights.

306. Philosophical problems. (AS) *Fall* (3) Jones.

A study of some major philosophical problems such as those concerning knowledge and reality, morality and conduct, and art and beauty. Special attention will be devoted to philosophical method. (Topic for 1988-89: The Holocaust).

307. Contemporary Moral Problems. (AS) *Spring* (3) Montaldi. *Prerequisite:* Philosophy 303.

A course in applied moral philosophy that presupposes the moral theory introduced in Philosophy 303. Topics will include such issues as those relating to sex and gender, the idea of a just war, and the U.S. response to South Africa's apartheid. (Topic for 1988-89: Justifying War).

311. Philosophy of Religion. (AS) *Spring* (3) J. Harris. *Prerequisites:* Philosophy 101 or 102 or 201 or consent of instructor.

A philosophical investigation of the nature of religious experience, activity, and belief. The course will also include an examination of such concepts as those of God, freedom, and immortality.

312. Philosophy in Literature. (AS) *Fall* (3) Bohl. *Prerequisites:* Philosophy 101 or 102 or 201 or consent of instructor.

A study of perennial philosophic problems such as the nature and destiny of man, evil, freedom, and God through contemporary and classical literature. (Not offered in 1988-89).

313. Introduction to the Philosophy of Science. (AS) *Spring* (3) J. Harris. *Prerequisites:* Philosophy 101 or 102 or 201 or consent of instructor.

A philosophical examination of the nature, validity, and significance of scientific inquiry. Special attention will be given to the descriptive, explanatory, and predictive aspects of scientific theories.

315. Marxism. (S) *Spring* (3) Fowler.

A philosophical examination of the central tenets of Marxism as they are expressed in the works of Marx and Engels and developed and interpreted by such thinkers as Lenin, Trotsky, Lukacs, Gramsci, and Marcuse. (Not offered in 1988-89).

321. Existentialism. (S) *Fall and Spring* (3) McLane and Bohl. *Prerequisites:* Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

An examination of important aspects of existentialism with readings in such philosophers as Kierkegaard, Nietzsche, Heidegger, and Sartre. Some attention will also be given to the impact of these philosophical movements upon contemporary literature, religious thought, and psychology.

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322. American Philosophy. (S) Spring (3) J. Harris. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

A study of readings selected from the works of 20th century American philosophers such as Peirce, James, Dewey, Santayana, and Whitehead. (Not offered in 1988-89).

324. Oriental Philosophy. (S) Spring (3) Cobb. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

A study of the major philosophers and systems of thought in East Asia. Study will be devoted to the I Ching, Confucius, Mo Tzu, Mencius, and Taoism, and to the development of Mahayana, Tibetan, and Zen Buddhism.

331. Greek Philosophy. (S) Fall (3) Cobb. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor. (Same as Classical Civilization 331.)

A critical examination of representative Greek philosophers with special emphasis on Plato and Aristotle.

332. Medieval Philosophy. (S) Spring (3) McLane. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

Analysis of selected writings of major medieval philosophers such as Augustine, Eri-gena, Anselm, Maimonides, Aquinas, Duns Scotus, and Occam.

333. 19th Century Philosophy. (S) Fall (3) Fowler. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

An examination of the ideas of major 19th century thinkers such as Hegel, Fichte, Marx, Mill, Kierkegaard, and Nietzsche. (Not offered in 1988-89).

336. Contemporary Analytic Philosophy. (S) Fall (3) J. Harris. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

An examination of the major philosophical writings of 20th century analytic philosophers such as Russell, Ayer, Austin, and Wittgenstein.

†341, 342. Directed Readings in Philosophy. (S) Fall and Spring (Credit to be arranged) Staff. Prerequisites: Departmental approval prior to registration.

Individually supervised readings and study of philosophical subjects that are not available through regular course offerings. (Detailed description of requirements available from the department office.)

350. Modern Philosophy I. (S) Fall (3) Knezevich. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of instructor.

A critical examination of some of the major rationalists in early modern philosophy , and the beginnings of empiricism.

351. Modern Philosophy II. (S) Spring (3) Knezevich. Prerequisites: Philosophy 101 and 102 or 201 and one other course in Philosophy or consent of the instructor.

A critical examination of empiricism (Locke, Berkeley, and Hume) and Kant's reaction to this tradition.

401. Theory of Knowledge. (S) Fall (3) J. Harris. Prerequisites: Philosophy 101, 102, or 201, plus three other courses in philosophy or consent of instructor. (Not offered in 1988-89).

An examination of philosophical theories about such topics as the nature of knowledge, criteria for truth, perception, meaning, knowledge, validation of belief, and skepticism.

403. Advanced Ethics. (S) Fall (3) Fuchs. Prerequisites: Philosophy 303 and three other courses in philosophy or consent of instructor.

A study of selected normative and theoretical problems in moral philosophy, such as the justification of ultimate moral principles, theories of social justice, or freedom and moral responsibility.

404. Advanced Logic. (S) Spring (3) McLane. Prerequisites: Philosophy 301 or consent of instructor.

Systematic investigation of topics in logic drawn from such areas as system construction, proof theory, modal and deontic logic, and abstract set theory.

405. Phenomenology. (S) Fall (3) Cobb. Prerequisites: Philosophy 101 or 102 or 201, and three other courses in philosophy or consent of instructor.

A study of phenomenology as a philosophical method. The readings will include some literary and psychological materials as well as the philosophical writings of such figures as Husserl, Heidegger, and Merleau-Ponty.

406. Philosophy of Language. (S) Spring (3) J. Harris. *Prerequisites:* Philosophy 301 and three other courses in philosophy or consent of instructor.

A survey of recent philosophical questions about language and meaning. Topics such as the following will be considered: reference, analyticity, speech acts, and semantic and syntactic theories. Among the authors that will be read are Russell, Austin, and Quine.

410. Morality and Law. (S) Spring (3) Fuchs. *Prerequisites:* Philosophy 303 and 3 other courses in Philosophy or consent of instructor.

An inquiry into the ethical content of law and the way in which moral standards shape legal systems. Consideration will be given to the moral foundations of positive law, the permissible moral scope of law, and the ethical content of our existing legal system. (Not offered 1988-89).

413. Philosophy of Mind. (S) Spring (3) Jones. *Prerequisites:* Philosophy 101, 102, or 201 and three other courses in philosophy or consent of instructor.

Critical analysis of theories concerning the nature of consciousness, the concept of the person and personal identity, and some theories of the relation of the mind to the body.

416. Philosophical Problems in Physical Science. (S) Spring (3) McKnight.¹ *Prerequisites:* Either Philosophy 301 or Physics 101, 102 or consent of instructor.

A study of philosophical problems arising in classical physics, quantum theory, and relativity. Special attention will be given to such topics as the status of observables, measurement, time, elementary particles, and the philosophical implications of contemporary physics. (Same as Physics 416.)

***422. Great Philosophers.** (S) Fall and Spring (3) Knezevich and McLane. *Prerequisite:* Variable by Topic; Please check with Department or Instructor.

A systematic study of the thought of a great philosopher such as Descartes, Spinoza, Hume, or Wittgenstein. The particular philosopher to be studied is designated each time the course is offered. (Fall: Kant and Spring: Kierkegaard).

***431, 432. Advanced Seminar in Philosophy.** (S) Fall and Spring (3) Fowler and Bohl. *Prerequisites:* Variable by topic; please check with Department or Instructor.

Special advanced topics of interest to faculty and students will be discussed in seminar fashion. Students in the course are expected to write and present papers for discussion. (Fall: Nietzsche. Spring: After Philosophy.)

†441, 442. Independent Study in Philosophy. Fall and Spring (3, 3) Staff. *Prerequisites:* Senior standing or eight courses in philosophy, and departmental approval prior to registration.

Individually supervised study of special topics. (Detailed description of requirements available from department office.)

†495-496. Honors. Fall and Spring (3, 3) Staff.

See section on Department Honors Program (p. 51) for general requirements and procedures. A student wishing to do Honors work in Philosophy should submit a written request to the chairperson by February 15 of his or her junior year. The student should see the department chairperson for a detailed statement of the requirements of the honors program and the specification of the information that is to be included in the written request for honors study.

Students admitted to Honors study will be enrolled in this course during both semesters of their senior year. The course comprises (a) supervised reading in the field of the student's major interest; (b) the preparation and presentation by April 15 of an Honors Essay; and (c) an oral examination on the Honors Essay and other related materials.

¹Professor of Physics.

Physical Education

ASSOCIATE PROFESSOR JACKSON (Chair). PROFESSORS AGEE, ARCHER, CROWE, ROBY, SHERMAN, and WEST. ASSOCIATE PROFESSORS CHARLES, JONES, LAMBERT, and SHIRLEY. ASSISTANT PROFESSORS ALBERT, CHERNOCK, GAUTHIER, HAYNIE, and KAMBIS. INSTRUCTORS BARNHILL, HOWES, LIN, REPPERT, STIMSON, van ROSSUM, WHITLEY.

To meet the requirements for an A.B. or B.S. degree, a student must acquire four semester credits in a physical education activity program. Each of the four activity requirements may be satisfied by taking a 100 level physical education course, participating in a varsity sport for one season or passing a proficiency test. Courses numbered PE 100-PE 187 may not be repeated for credit. Students may not get credit for a proficiency test if they already have a course credit in that activity. Opportunities to demonstrate skill proficiencies are offered in the fall of each academic year. It is recommended that a student begin this program in his first semester of residence and continue in the program until the requirement has been satisfied.

REQUIREMENTS FOR CONCENTRATION AND MINOR

A concentration in Physical Education requires a minimum of 34 semester credits. All students must fulfill the requirements listed under Human Movement and Sports Studies. Those wishing to receive teaching certification must add the Teacher Preparation courses.

A minor in Physical Education consists of 21 credits. Biology 307 and 308 and Physical Education 204 are required. The remaining 12 credits may be chosen in different combinations with departmental approval. Further information is available from the Chair of the Physical Education Department.

The requirements for The Study of Human Movement and Sport Studies are as follows:

- PE 204. Introduction to Physical Education
 - BIO 307. Human Physiology
 - BIO 308 Human Anatomy
 - PE 394. Measurement and Evaluation
 - PE 400. Sport Psychology
 - PE 492. Physiology of Exercise
 - PE 493 Philosophy of Physical Education and Sport
 - PE 470, 471, 480 or 481
- 6 activity credits, to include at least one class from each of the following areas: Aquatics, Rhythms, Gymnastics, Individual Sports, Team Sports, and Outdoor Education. The Study of Human Movement is intended to prepare students for graduate study. Students planning to pursue graduate work in a two-subject discipline such as Sport Psychology should discuss the possibility of a double major with their advisor.

Course Requirements in the Certification Program in Physical Education NK-12

Prospective teachers need to fulfill the requirements of the Human Movement and Sport Studies Curriculum and take the additional courses listed below:

	<u>Semester Hours</u>
ED 310 Social and Philosophical Perspectives in Education	2
ED 319 Early Childhood Experiences in Physical Education	1
PE 322 Principles of Motor Learning	3
PE 340 Motor Development	3
PE 411 Adapted Physical Education	2
PE 208 Safety Measures and Emergency Care	3
PE 435 Teaching Physical Education	3
ED 493A Supervised Student Teaching in Elementary Schools	3
ED 493B Supervised Student Teaching in Secondary Schools	3
	<u>23</u>

Professional Semester

The professional or culminating semester of course work in the Certification Program in Physical Education NK-12 occurs during the spring semester of a student's senior year and includes 12 credit hours of course work. The specific courses taken during the Professional Semester include Ed 435, Ed 493A, and Ed 493B. The first of these courses is a methods courses in teaching physical education at elementary and secondary school levels; the second two courses are student teaching at the two school levels.

Admissions Requirements

Admissions criteria and registration information may be found in the Secondary Certification Program in the School of Education section of the catalog.

DESCRIPTION OF COURSES

Students concentrating in other departments may elect physical education courses according to interest or to prepare for teaching combinations, recreation work, or other related fields.

P.E. Activity Classes¹

100 Wellness	132 Aerobic Exer to Music	162 Riding IV
101 Soccer II	133 Backpacking I	163 Riding V
102 Basketball	134 Backpacking II	164 Rock Climbing
103 Wmns Comptv Fld Hoc I	135 Badminton I	165 Skiing—Cross Country I
104 Wmns Comptv Fld Hoc II	136 Badminton II	166 Skiing—Cross Country II
105 Wmns Comptv Fld Hoc III	137 Bowling	167 Skiing—Downhill I
106 Field Hockey	138 Canoe Camping	168 Skiing—Downhill II
107 Lacrosse	139 Flat Water Canoeing	169 Skiing—Downhill III
108 Wmns Comptv Lacros I	140 White Water Canoeing	170 Tennis I
109 Wmns Comptv Lacros II	141 White Water Canoeing II	171 Tennis II
110 Wmns Comptv Lacros III	142 White Water Canoeing III	172 Tennis III
111 Soccer I	143 Cycling	173 Tennis IV
112 Softball	144 Fencing	174 Triathlon Training
113 Ultimate Frisbee	145 Folk Dance	175 Weight Training
114 Volleyball	146 Gymnastics	176 Windsurfing
115 Swimming I	147 Golf I	177 Winter Camping
116 Swimming II	148 Golf II	178 Racquetball III
117 Swimming III	149 Jogging for Fitness	187 Elem Dance Tech
118 Competv/Fitness Swim	150 Beginning Karate	188 Inter I Dance Tech
119 Advanced Life Saving	151 Intermediate Karate	189 Inter II Dance Tech
120 Water Safety Instruc	152 Advanced Karate	190 Inter II Jazz Tech
121 Lifeguard Training	153 Self-Defense for Women	191 Inter III Dance Tech
122 SCUBA	154 Kayaking	192 Adv Dance Technique
123 Mermettes I	155 Kayaking II	193 Orchesis Apprentice
124 Mermettes II	156 Orienteering	194 Orchesis
125 Mermettes III	157 Racquetball I	195 Selec Dance Activs
126 Mermettes IV	158 Racquetball II	196 Selec Sport Activ
129 Acrosports	159 Riding I	197 Adapted Activities
130 Adventure Games	160 Riding II	198 Men's Varsity Sports
131 Aerobics	161 Riding III	199 Women's Varsity Sports

203. Physical Education and Recreation Activities. Spring (2) Mr. Gauthier and Ms. Crowe.

This course includes the skills and teaching methods of gymnastics and basic movement patterns. Principles of rhythms and dance necessary for elementary school teaching are covered.

204. Introduction to Health, Physical Education and Recreation. Fall and Spring (3) Mr. Charles.

¹These courses do not receive academic credit.

PHYSICAL EDUCATION

An introduction to the study of the broad areas of Health, Physical Education and Recreation with emphasis upon historical, philosophical and sociocultural development of the field. It includes an introduction into biomechanical and psychological aspects of human movement.

205. Principles of Coaching. *Fall and Spring (2) Staff.*

An introduction to the scientific and organizational knowledges necessary for prospective coaches. Topics include the physiological principles of training, the biomechanical principles of movement, psychological aspects of learning and motivation, management skills and ethical concerns.

206. Practicum in Coaching. *Fall and Spring (1) Staff.*

A supervised field experience with an organized athletic team designed to enable students who have completed the course work in principles of coaching to become competent at the entry level in the roles, functions and skills of a coach. *Co-requisite: PE 205.*

208. Safety Measures, Emergency Care and Treatment.¹ *Fall and Spring (3) Mr. Jensen and Ms. Lambert.*

An approach to emergency health care emphasizing the biological and physiological systems of the human body relevant to emergency care; the physical and psychological impact of human activity in safety and accident prevention. Laboratories cover emergency care and contact with rescue and/or hospital personnel.

307. Health and Physical Education for Elementary Classroom Teaching, K-6. *Spring (4) Ms. Crowe.*

Teaching methods and materials in Health and Physical Education for elementary school children. Emphasis is on understanding movement patterns, motor control, and skill development and the significance of motor development. Also examined are health needs and safety practices which develop competencies and insight into today's health problems. *Four class and laboratory hours.* (Students receiving credit for P.E. 307 may not receive credit for P.E. 321).

308. Applied Anatomy and Kinesology. *Spring (3) Staff. Prerequisite: Biology 308.*

A study of the principles of human motion. Anatomical and mechanical analysis of individual skills in physical education activities is stressed.

309. Driver Education.² *Fall or Spring (3) Mr. Jones.*

Critical analysis of traffic accidents, attitude factors, and essential knowledge are developed. The laboratory phase will include the use of psychophysical and psychological tests and actual practice-teaching behind the wheel. *Lectures and laboratories four hours.*

310. Principles of Accident Causation and Prevention.³ *Fall and Spring (3) Mr. Jones.*

This course is designed to present an overview of the dimensions of the accident problem with special attention to accident prevention concepts and theories.

321. Foundations of Health Education. *Fall and Spring (3) Ms. Archer.*

An advanced course which develops instructional competencies with special emphasis on the historical as well as the most recent health facts, principles and concepts.

322. Principles of Motor Learning. *Spring (3) Ms. Crowe.*

An introduction to the principles and concepts of learning basic to the acquisition and performance of physical skills. Factors and conditions affecting skill learning will be stressed. Emphasis will be placed on practical applications in instructional setting. *Three lecture and laboratory hours.*

328. Teaching and Coaching Soccer. *Spring-first half (1) Mr. Albert.*

A detailed study of the basic and advanced skill techniques and tactics of soccer.

¹Course may lead to certification in Advanced First Aid and/or Cardiopulmonary Resuscitation.

²While this course may be taken to fulfill requirements for Virginia State Certification in Driver Education, it may not be counted toward meeting requirements for the A.B. or B.S. Degree. This course and Physical Education 310 are taught in alternate years.

³P.E. 309 and 310 are taught in alternate years.

340. Motor Development. *Spring (3) Ms. Crowe.*

This course is designed to examine the growth and development of motor skills throughout the entire life span, and to investigate the changes in motor development from childhood and adolescence through older adulthood.

350. Nutrition. *Spring (3) Mr. Kamis*

An introductory course beginning with the anatomy and physiology of the gastrointestinal system. Individual nutrients will be discussed and there will be an in depth treatment of life cycle nutrition issues.

394. Tests and Measurements in Health, Physical Education and Recreation. *Fall and Spring (3) Ms. Jackson.*

Evaluation techniques are studied with emphasis placed on tests of physical performance, body mechanics, and growth. The basic tools of statistical analysis used by the physical educator will be studied.

400. Sport Psychology. *Fall and Spring (3) Ms. Jackson.*

This course is designed as an introduction to the study of psychological dimensions to sport. Various topics which will be included: behavior change in sport, motivation, personality factors and the elite athlete. Structure of the course also allows the student to investigate topics of individual interest.

408. Organization and Administration of Health and Physical Education Programs. *Spring (3) Mr. Smith.*

This course provides counsel on organizational and administrative policies and procedures for physical education health and intramural programs in the public schools.

411. Adapted Physical Education. *Spring (2) Staff. Prerequisite: Biology 308. Co-requisite: Education 461.*

An examination of teaching adaptations necessary to allow handicapped children to participate in the normal physical education program. Some study is made of remedial exercises and activities.

†470.471. Readings in Physical Education. *Fall and Spring (3,3) Staff.*

An independent study program for the advanced student involving reading, research and the writing of a paper. The student must obtain permission from the Chair of the Department and a faculty supervisor before registering for the course.

†480.481. Physical Education Research. *Fall and Spring (3,3) Staff. Prerequisite: Senior standing and permission of Department Chair.*

A course for the advanced student affording an opportunity for independent laboratory or field research under the supervision of a faculty member.

490. Physical Modalities. *Fall (3) Staff. Prerequisite: Biology 307, 308.*

A detailed inquiry into modalities currently employed in physical therapy and sports medicine.

491. Rehabilitation Techniques. *Spring (3) Staff. Prerequisite: Biology 307, 308, Physical Education 308.*

An in-depth study of therapeutic exercise and techniques employed in rehabilitation.

492. Physiology of Activity. *Spring (4) Mr. Kambis. Prerequisite: Biology 307-308 or equivalent.*

An in-depth study of the physiological aspects of exercise, fatigue, coordination, training, and growth; functional tests with normal and abnormal subjects; investigations and independent readings. 3 class hours and 3 laboratory hours.

493. Philosophy of Physical Education and Sport. *Fall (3) Mr. Charles.*

Extensive readings, discussions and evaluations of historical and current philosophies and practices are made. Educational implications of problems facing the field are analyzed.

497. Health Coordination. *Fall (3) Staff.*

A comprehensive study is made of the factors of school and community activities

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related to health. Relationships of the service, instructional, protective, and guidance phases in the health program are identified.

498. Internship *Fall, Spring (3) Staff.*

A structured off-campus learning experience designed to complement and expand on the student's academic course work. Prerequisite: 12 hours in *Physical Education* approved by the Chair.

Physics

PROFESSORS CHAMPION (Chair), BOOZER, CARLSON, DELOS, DOVERSPIKE, ECKHAUSE, FUNSTEN, GROSS, KANE, KOSSLER, McKNIGHT, PERDRISAT, PETZINGER, REMLER, SCHONE, SIEGEL, VAHALA, VON BAEYER, WELSH and WINTER. ASSOCIATE PROFESSORS FINN, KRAKAUER. ASSISTANT PROFESSORS HOATSON and TRACY. ADJUNCT PROFESSOR HEYMAN. CEBAF PROFESSOR CARLINI. RESEARCH ASSOCIATE PROFESSORS BENNER, and VENKATARAMAN. RESEARCH ASSISTANT PROFESSOR WHYLEY. RESEARCH ASSOCIATES HANCOCK, SINGH, PUNJABI, ULMER, and WANG. RESEARCH ENGINEERS BENSEL and VULCAN.

PROGRAM

Traditionally, many physics undergraduates continue in graduate school in pursuit of Ph.D. degrees. However, students who complete a physics concentration also enter a variety of other fields, including among many others archaeology, biology, mathematics, computer science, law, medicine, environmental sciences, operations research, technical sales, industrial management, engineering, and oceanography. Undergraduate work in physics followed by specialization in other areas has become one of the preferred preparations for many activities that are setting new directions in society because physicists are scientific generalists. The requirements for concentration in physics are deliberately flexible, and are designed to prepare people for either graduate work in physics or for later specialization in other areas.

A minimum of 30 credits, including not more than eight in 100-level courses and not more than three in courses numbered 416-422, is required for a concentration in physics. Either Physics 451-452 or Physics 495-496 must be completed, so that all majors engage in independent research during their senior year. Because of the extensive facilities available through the graduate program of the department, the senior projects generally deal with problems at the frontiers of physics. It is only through being actively involved in such pursuits that a student can appreciate the nature of the discipline.

Students who want to become physicists should be prepared in such a way that they can succeed in the best graduate schools. The following statements are advice appropriate to such students:

Physics 101-102 and calculus should be taken during the freshman year.

Physics 201-208 and 251-252 should be included in the sophomore year.

Physics 303, 309, 313, 314, 351-352, 401 and selections from 402, 403-404, 475, 481 and 482 should be completed during the junior and senior years. Students who intend to become physics majors are strongly advised to take the lab courses 251-2, 351-2 in order to be prepared adequately for their senior project.

Suitable mathematics courses should also be included.

The minor in physics consists of 20 credits and includes Physics 101, 102, 201 and three other courses, one of which is numbered above 201.

The concentration writing requirement may be satisfied by taking Physics 451-452 or Physics 495-496.

The requirements for combined plans with engineering schools are set forth on p.

DESCRIPTION OF COURSES

101-102. General Physics. (A,L) *Fall-Spring (4, 4) Mr. Von Baeyer and staff.*

This course is designed to develop an understanding of the fundamental concepts of physics. Emphasis is placed upon Newtonian mechanics, electricity and magnetism and modern physics; current research and applications are discussed. Designed for students who are considering concentrating in one of the sciences or mathematics. Concurrent

registration in calculus is recommended. Honors sections of the laboratories are open to students that have a good preparation for and a strong interest in physics. *Lectures, discussions, and laboratory six and one-half hours.*

103. Physics for non-science majors. (A,L) Fall. (4) Mr. Petzinger

Basic laws and models of physics are used to qualitatively and quantitatively analyze systems without the use of mathematics beyond algebra. Concepts such as force, energy, momentum, as seen in the gravitational, electrostatic and magnetostatic interaction of simple systems, are introduced and applied to a large variety of phenomena. Area III concentrators need special permission of the instructor to enroll. *Lecture 3 hours. A two hour laboratory is required.*

104. Physics for non-science majors (A) Spring (3) Mr. Petzinger. *Prerequisite: P103 or P101.*

Building on the ideas introduced in P103, this course goes on to discuss more complex systems and includes topics such as gas theory, solids and liquids, heat, waves, sound and light. *The laboratory for P104 is optional and is called P106.*

106. Elementary Modern Physics Laboratory: (L) Spring (1) Staff. *Pre- or co-requisite: P104.*

The laboratory experiments reflect and emphasize the basic physical concepts covered in Physics 104. Experiments include investigations of wave motion, electronics, radioactivity, physical optics and atomic structure. *Laboratory 2 hours.*

121. Physics of Music. (A) Fall (3) Mr. Funsten.

Basic concepts of physics, particularly acoustics, needed for an understanding of the properties of sound and music. The course will be in the form of a workshop—students will participate in the performance of experiments which illustrate the ideas. *Lecture and laboratory three hours.*

175. Development of Physics and Cosmology. (A) Fall and Spring (3) Mr. Champion and Mr. Tracy.

The evolution of ideas about the structure and nature of the universe from the time of the Renaissance to the present. The role of modern physics in understanding the history of the universe is stressed.

176. Introductory Astronomy. (A,L) Fall and Spring (4) Mr. Welsh and Mr. McKnight.

Descriptive study of the solar system; theories of the origin of the solar system. Star classification; descriptive studies of star clusters and galaxies. Recent developments such as quasars, pulsars, neutrino astronomy and radio astronomy. Current theories of the origin of the universe. *Lecture three hours, laboratory two hours.*

***195-196. Freshman Apprenticeships.** (A if taken for 3 credits) Fall and Spring (1-3, 1-3) Mr. Remler and Staff.

Independent research and study. Students with appropriate interests and backgrounds are offered the opportunity to pursue projects under individual faculty supervision. Permission of the instructor is required to enroll.

201. Modern Physics. (S) Fall (3) Mr. Doverspike. *Prerequisites: Physics 101-102.*

Twentieth century developments in physics. Relativity theory; the nature of space and time, the paradox of the twins, the equivalence of mass and energy. Introductory quantum theory; the particle nature of light, the wave nature of electrons, atomic and molecular structure, the structure of the nucleus and the discovery of new particles. This course is appropriate for all those majoring in Area III.

206. Physics and Computers. (S) Spring (3) Mr. Remler. *Prerequisites: Physics 101, 102, 201 and some programming experience.*

Develops understanding of physics using computers and explores their role as research and teaching tools. Students create original programs or modify existing software to study relativity, quantum mechanics, etc., depending on interest. May not be counted toward concentration in physics.

208. Classical Mechanics of Particles and Waves I. (S) Spring (4) Mr. Schone.

Newton's laws, the simple harmonic oscillator, the central force problem, multiparticle systems including coupled oscillators and rigid bodies.

PHYSICS

251. Experimental Atomic Physics. Fall (1) Mr. Kane. Corequisite: Physics 201.

Fundamental experiments in atomic physics. Modern scientific methods and instruments are used in such classical experiments as the measurement of the speed of light, the Millikan oil drop experiment, the photo-electric effect and optical spectroscopy. *Laboratory three hours.*

252. Electronics I. Spring (2) Mr. Doverspike.

Introduction to passive analysis and electrical networks, application of circuit analogs to mechanical systems, including wave motion. *Lecture plus three Laboratory hours.*

265. Energy and the Environment. (S) Fall (3) Mr. McKnight. Prerequisites: Physics 101-102 or 103-104.

A study of the physics of energy production, transmission, and use, with consideration of the social and environmental impacts of choosing particular technologies. Assessment of alternative solutions to the problem of energy for the future. May not be counted toward concentration in physics. (Not offered in 1988-89.)

266. Environmental Physics: Pollution, Transportation and Resources. (S) Spring (3) Staff. Prerequisites: Physics 101-102 or 103-104.

An investigation of the physical phenomena associated with current environmental problems: atmospheric and water pollution, transportation, noise, and recycling of resources. Descriptive and quantitative analysis of the environmental impact of planned and proposed changes in our way of life. May not be counted toward concentration in physics.

267. The Strategic Arms Race: The Scientific Viewpoint. (S) Fall (2) Mr. Tracy. Prerequisite: Physics 101-102, or Physics 103-104 or consent of instructor.

An introduction to the scientific and technological bases of the nuclear arms race. Topics will include: the physical principles and effects of nuclear explosions, prospects for arms control (including scientific aspects of treaty verification), and the strategic defense initiative. May not be counted toward concentration in physics.

276. Modern Astronomy and Astrophysics. (A, S) Spring (3) Mr. McKnight.

A comprehensive introduction to topics in planetary science, stellar characteristics and evolution, galaxies, cosmology and the tools and techniques of astronomy and astrophysics. Recommended for Area III concentrators. May not be counted toward concentration in physics.

303. Classical Mechanics of Particles and Waves II. (S) Fall (4) Mr. Schone.

Mechanics of continuous media, waves, Lagrange and Hamiltonian mechanics, tensors, special relativity.

309. Undergraduate Seminar. Spring and Fall (1, P/F) Mr. Winter and Staff. For physics concentrators.

Discussion of contemporary research in physics. Faculty members give survey talks during the first part of the semester. During the second part, students give talks based on their reading and research. *May be repeated for credit.*

313-314. Introduction to Quantum Physics. Fall and Spring (3, 3) Mr. Delos. Prerequisite: Physics 201, 208.

Introduction to non-relativistic quantum mechanics, emphasizing basic principles with illustrations from atomic, solid state and nuclear physics.

351. Electronics II. Fall (1) Mr. Finn.

Design and construction of active circuits and devices used in experimental research. This course includes instruction in machine shop. *Laboratory three hours.*

352. Experimental Modern Physics. Spring (1) Mr. Kane and Staff.

Experiments in atomic, nuclear, solid state and elementary particle physics. *Laboratory three hours.*

401-402. Electricity and Magnetism. Spring and Fall (3, 3) Mr. Eckhause. Prerequisite: Physics 301.

Development of the theory of electricity and magnetism from fundamental principles. Maxwell's equations, electromagnetic waves and radiation.

403. Thermodynamics and Introduction to Statistical Mechanics. *Fall* (3) Ms. Hoatson. *Prerequisite:* Physics 201.

The principles of thermodynamics, kinetic theory of gases, and elementary statistical mechanics.

404. Quantum Physics. *Spring* (3) Mr. Winter. *Prerequisite:* Physics 313-314.

The quantum theory in its application to atomic, solid state, nuclear and elementary particle physics.

416. Philosophical Problems in Physical Science. *Spring* (3) Mr. McKnight. *Prerequisites:* two courses in physics or philosophy.

A study of philosophical problems arising in experiment and theory in classical physics, quantum theory and relativity; the status of observables, measurements, time and elementary particles. Philosophical implications of contemporary physics. (Same as Philosophy 416).

417. History of Physical Science: Its Origins, Sixth Century B.C., through the Renaissance. *Spring* (3) Mr. McKnight.

A study of the Greek and Hellenistic endeavors to explain observed physical phenomena, of Arab science in the Middle Ages, of the revival of academic science during the rise of the European universities, and of the Renaissance beginnings of modern physics and astronomy. (Same as History 481).

418. History of Physical Science: The Classical Period, 1687-1900. *Fall* (3) Mr. McKnight.

A study of the development of the physical sciences after the publication of Newton's Principia. Emphasis will be placed on influences acting on and within the scientific community, on the impact of science on the institution of society, and on the interrelations between the development of science and that of mathematics and philosophy. (Same as History 482).

451-452. Physics Research. *Fall and Spring* (1-3, 1-3) Staff.

Independent study including bibliographic and experimental or theoretical research and a research paper.

The student will be required to submit a preliminary draft of the research paper during the first semester and will be expected to work closely with an adviser both in the actual research and in preparation of an acceptable report. If satisfactorily completed, this course will meet the college writing requirement.

475. Introduction to Mathematical Physics. *Spring* (3) Mr. Tracy.

Vector analysis, complex variables, matrices, series solutions of differential equations, orthogonal functions and partial differential equations. This course does not carry undergraduate credit in Physics. (Offered alternate years).

481. Topics in Physics. *Fall* (to be arranged) Staff.

482. Topics in Physics. *Spring* (to be arranged) Staff.

495-496. Honors. *Fall and Spring* (3, 3) Staff.

Students admitted to Honors Study in Physics will be enrolled in this course during both semesters of their senior year. Each candidate will be responsible for (a) reading and discussion of a selected list of books in some specific area of the literature of physics; (b) the preparation and presentation by April 15 of an Honors Essay based on the student's own research, or, part of a major research project; (c) satisfactory completion of a comprehensive oral examination on essay and related topics.¹ If successfully completed this course will satisfy the college writing requirement.

GRADUATE PROGRAM

The department offers the degrees of Master of Arts, Master of Science, and Doctor of Philosophy. For degree requirements and a full description of graduate courses in physics, write to the department chair for a graduate catalog.

¹For college provisions governing the admission to honors, see page 51.

Psychology

PROFESSOR FRIEDMAN (Chair). PROFESSORS CHAMBERS, DERKS, HARCUM, JOHNSTON, McKENNA, ROSEN, SHAVER, SHEAN, and L. VENTIS. ASSOCIATE PROFESSORS GALANO, NEZLEK, NULL, ROHRBAUGH, D. VENTIS, and WATSON. LECTURERS FRIEDEN, and WEAVER.

REQUIREMENTS FOR CONCENTRATION

Degree of Bachelor of Arts: A minimum of 32 credits in the Department is required for concentration in Psychology including 201 and 202, 331, 340, and one advanced research course (451-464). An additional intermediate course may be specified when it is a prerequisite for a specific advanced research course. All students preparing for graduate study in psychology, whether or not they are concentrators, are advised to take additional research courses appropriate to their interest.

Degree of Bachelor of Science: Concentration requirements for the B.S. are those listed above for the A.B. but in addition the student must meet area requirements for the B.S. degree. The preferred science is Biology.

Normal Program Recommended for Concentration: Psychology 201 and 202, 331, 340, one advanced research course (451-464), and a selection of intermediate and advanced courses appropriate to the student's interests and career goals.

To fulfill the Concentration Writing Requirement concentrators must earn a grade of "C" or better in either Psychology 340 or any advanced research course in Psychology.

MINOR AND AREA REQUIREMENTS

Requirements for Minor program: At least 21 credits of Psychology, including Psychology 201 and 202, and two 400-level courses.

Students wishing to satisfy area requirements in Psychology should take Psychology 201 and Psychology 202.

DESCRIPTION OF COURSES

INTRODUCTORY COURSES

201. Principles of Psychology. (A) *Fall, Spring* (3) Mr. Nezlek and Mr. Harcum.

A study of basic principles of behavior, in sensation and perception, conditioning and learning, drives and motivation, response mechanisms and cognitive processes. *Three hours lecture.*

202. Principles of Psychology. (A) *Fall, Spring* (3) Mr. Harcum and Mr. Nezlek.

An examination of basic concepts in abnormal, developmental, personality and social psychology, normality and deviation, behavior modification, stages of development, personality traits, motives, attitudes and social perceptions. *Three hours lecture.*

203, 204. Principles of Psychology: Demonstration/Discussion. *Fall, Spring* (1) Mr. McKenna and Staff.

An optional supplement to 201 or 202 lecture course. Small enrollment sections provide demonstrations and discussions of principles of psychology. (203 or 204 must be taken concurrently with 201 or 202 respectively.) *One hour.*

***211, 212. Introductory Research Seminar.** *Fall, Spring* (1) Ms. Rosen and Staff.

Taken with 201, 202 by selected students interested in extra study and independent scholarship. Enrollment by invitation only. Hours to be arranged.

INTERMEDIATE COURSES

Psychology 201 or 202 is a prerequisite for all intermediate courses. Specific prerequisites are listed as appropriate.

331. Elementary Statistics.¹ *Fall, Spring* (3) Mr. Friedman, and Mr. Johnston.

¹See note on page 41 concerning credit for statistics course.

An introduction to statistics, both descriptive and inferential, including analysis of variance and correlation. Hypothesis testing and the analysis of research data are strongly emphasized. *Three class hours, two laboratory hours.*

340. Experimental Methods. (S) *Fall, Spring* (4) Mr. Harcum, Ms. Rosen, and Staff. *Prerequisite: Psychology 331.*

An introduction to empirical research with emphasis upon the methods by which psychological data are obtained. The course will consider naturalistic and correlational methods as well as experimental techniques. *Three class hours, two laboratory hours.*

342. Psychology of Organizational Behavior. (S) *Spring* (3) Mr. Nezelek.

The basic unit of analysis for this course will be the human organization: corporate, educational, civil, and others. Individual behavior is considered as it reflects and impinges upon the behavior of the organization. Systems analysis provides the basic analytic framework.

351. Learning and Memory. (S) *Fall, Spring* (3) Mr. Derks.

An opportunity to engage in research and theorizing about learning and memory.

352. Physiological Psychology. (S) *Fall* (3, 4) Ms. Rosen.

Physiological basis of behavior with emphasis on mechanisms in perception, learning, emotion and motivation. Students may elect to take a laboratory which is designed to provide experience in the techniques of physiological psychology.

361. Abnormal Psychology. (S) *Fall, Spring* (3) Mr. Rohrbaugh, Mr. Shean, and Staff.

A survey of behavior pathology including the neuroses and psychoses and their relationship to current conceptions of normal personality.

362. Developmental Psychology. (S) *Fall, Spring* (3) Ms. D. Ventis.

A lifespan survey of human development, with emphasis on perceptual, cognitive, and social processes. A student may not apply both Psychology 362 and Education 302 toward a degree. This course may be used to meet state teaching certification requirements.

363. Personality Theory. (S) *Fall, Spring* (3) Mr. Johnston.

A survey of contemporary theory in the field, with emphasis upon its empirical foundations and future possibilities.

364. Social Psychology. (S) *Fall, Spring* (3) Mr. Shaver.

This course examines the effects of social context on the behavior of the individual, with emphasis on prominent theories and research. Topics include social perception, attitude organization and change, the social consequences of individual motives, interpersonal influence, and the application of social psychology to contemporary social issues.

365. Community Psychology. (S) *Fall* (3) Mr. Galano.

This course explores Community Psychology and the role of prevention in mental health. New theories about mental illness and advances in preventing illness and promoting health are presented. The field's achievements and potential are evaluated. Community-based preventionists make class presentations.

ADVANCED COURSES

Psychology 201 or 202 is a prerequisite for all advanced courses. Specific prerequisites are listed as appropriate.

401. Advanced Abnormal Psychology. *Spring* (3) Mr. Watson. *Prerequisite: Psychology 361.*

This course will survey selected topics and theories in psychopathology and therapy. Topics which may be considered include psychodynamic, cognitive-behavioral, Gestalt, Jungian, and client-centered approaches.

402. Exceptional Children. (S) *Fall* (3) Mr. Shean. *Prerequisite: Psychology 362.*

A consideration of the problems involved in providing psychological programs for the care of exceptional children. An overview of relevant research and treatment techniques will be combined with practical experience in field settings with exceptional children.

403. History and Systems of Psychology. (S) Spring (3) Mr. McKenna.

From Greek Philosophy to the present with special emphasis on the 19th and 20th centuries. The rise of the major systems: Existential and Humanistic Psychology, Structuralism, Functionalism, Gestalt Psychology, Psychoanalysis, Behaviorism. Some current issues such as the "cognitive revolution," dialectics, genetic epistemology, and phenomenological research will be discussed.

404. Motivation and Emotion. (S) Spring (3) Mr. Johnston.

Theories and facts of motivation and emotion and consideration of their differences. Emphasis on theory and research. Must have junior standing or permission of instructor.

406. Sexuality. (S) Fall (3) Ms. Rosen.

The study of behaviors associated with courtship and reproduction in the animal kingdom. Emphasis is on mammalian and primate species. Topics include biological and environmental determinants of sexual behavior, the physiology and psychology of sexual response, and psychosexual differentiation.

407. Social Psychology and the Law. (S) Spring (3) Mr. Shaver.

This course examines ways in which the theory and research of contemporary social psychology can be brought to bear on various aspects of the criminal justice system. Focusing will be on the issue of discretion, on the part of the police, prosecution, courts, and corrections. The course will identify social psychological processes that can affect law enforcement and the administration of justice.

408. Practicum in Community Psychology. (S) Spring (3) Mr. Galano. Prerequisite: Psychology 365.

Supervised learning experiences provide opportunities to relate theoretical knowledge with the delivery of psychological services in the community. Students combine practicum with readings tailored to their service setting. A wide range of community based psychological training opportunities is available. One lecture hour, four-six hours in the community.

422. Advanced Statistics. Fall (3) Ms. Null. Prerequisite: Psychology 331.

An advance course in statistics and experimental design. Three class hours, one laboratory hour.

451. Cognition and Thinking. Fall (4) Mr. Derks. Prerequisites: Psychology 331, 340, and 351.

An examination of the research and theory that helps describe and explain the structure and function of the mind. Three lecture hours, two laboratory hours.

453. Comparative Psychology. Spring (4) Mr. Friedman. Prerequisites: Psychology 331 and 340.

An examination of basic procedures for studying various animal species with an emphasis on novel sensory systems and the evolution and measurement of intelligence. Three lecture hours, two laboratory hours.

454. Sensation and Perception. Spring (4) Mr. Harcum. Prerequisite: Psychology 331 and 340.

This course is concerned with the processes by which a person comes to understand his environment. It considers what changes in the environment stimulate the senses and how the nervous system operates on this change to form projections about the real world. In each perceptual stage the influences of such processes as learning and motivation are examined. Emphasis is placed on analytic methods. Three lecture hours, two laboratory hours.

461. Behavior Modification. Fall (4) Mr. L. Ventis. Prerequisite: Psychology 331, 340, and 361.

This course will acquaint students with both techniques and research issues in behavior modification. Laboratory sessions will be devoted to gaining experience with the processes described and to preparing and implementing individual research projects. Three lecture hours, two laboratory hours.

462. Research in Developmental Psychology. Spring (4) Ms. D. Ventis. *Prerequisites:* Psychology 331, 340, and 362.

An examination of contemporary issues in developmental research. Research methods will be considered in conjunction with a review of current literature in areas such as early socialization, cognitive development, and behavior problems. *Three lecture hours, two laboratory hours.*

463. Research in Personality. Fall (4) Mr. McKenna. *Prerequisites:* Psychology 331, 340, and 363.

An overview of research methodology as applied to personality. Specific research topics such as achievement motivation, aggression, anxiety, cognitive styles, intelligence and abilities, interpersonal attraction, locus of control, personology, self concept, and sexuality will be reviewed in detail. *Three lecture hours, two laboratory hours.*

464. Experimental Social Psychology. Fall (4) Mr. Shaver. *Prerequisites:* Psychology 331, 340, and 364.

This course considers the methodology of contemporary experimental social psychology, concentrating upon laboratory experimentation, but including selected field techniques. Particular emphasis will be placed on the experimenter-subject interaction, the ethics of research with human subjects, and the relationship between theory and research. *Three lecture hours, two laboratory hours.*

***470. Topics in Psychology.** Spring (3) Staff.

Courses concerning special topics not covered in detail in regular course offerings. Course may be repeated; contents will vary but the credit each time is the same; three hours.

***473, 474. Advanced General Psychology.** Fall, Spring (3) Mr. McKenna.

A review of the general principles of psychology obtained through the teaching of a demonstration section in Introductory Psychology.

***480. Seminar.** Spring (3) Staff.

Special topics of interest to staff and students will be discussed in seminar fashion. Course may be repeated; contents will vary but the credit each time is the same, three hours.

***485. Psychology of Humor.** Spring (3) Mr. Derks.

A discussion of the theories and applications of one of the most intriguing aspects of human behavior. A seminar approach is taken to provide a deeper and broader understanding of both humor and Psychology.

***490. Directed Readings in Psychology.** Fall, Spring (TBA) Staff.

Individual supervised readings on special topics. Usually for advanced students. A student must have permission of a faculty supervisor and of the instructor before registering. Course may be repeated, contents and credit each time may vary according to an agreement reached between supervisor and student at the time of registration.

***491. Senior Research.** Fall, Spring (TBA) Staff.

Individually supervised empirical investigations in the various areas of psychology. A student must have permission of a faculty supervisor and of the instructor before registering. Course may be repeated, contents and credit each time may vary according to an agreement reached between supervisor and student at the time of registration.

***495-496. Honors.** Fall, Spring (3) Ms. Ventis and Mr. Derks.

A student admitted to Honors Study is eligible for an award of Honors in Psychology on graduation.

Honors is independent study comprising (a) supervised reading in the field of the student's major interest, primarily in the original literature; (b) the preparation and presentation by April 15 of an Honors thesis based on the student's own research; and (c) satisfactory completion of a comprehensive examination in the field of the student's major interest.¹

²For college provisions governing the admission to honors, see page 51.

Religion

PROFESSORS FINN (Chairman), HOLMES, LIVINGSTON¹, TIEFEL and WILLIAMS².
ASSOCIATE PROFESSORS BERGER³ AND VAN HORN. ASSISTANT PROFESSOR TABOR. ADJUNCTS KINNEY, POWELL, SPIELMAN, TOWNER AND TUELL.

AREA AND SEQUENCE GUIDE

The basic college area requirement concerning Area I may be satisfied in Religion by taking any courses in Religion which are designated (A) or (AS). The sequence requirement may be satisfied by taking any two courses in Religion designated (AS) or (S). Recommended topical sequences are grouped below by area of study.

REQUIREMENTS FOR CONCENTRATION

Concentrators in Religion should possess acquaintance with theories about the nature and function of religion and with a variety of approaches to its study. A sound concentration consists of coherently related courses. Therefore, consultation with a departmental advisor is expected.

A concentration in Religion requires 27 credit hours in the Department which must include the following distribution: one course in biblical studies, one course in Asian religions (not including Islam), three advanced courses in religion (i.e., courses bearing only S designation).

The concentration writing requirement in Religion can be fulfilled by passing any one of the following courses with a C or better: 322, 330, 333, 335, 337, 403, 404, 407, 411, 414, 495/496. Students should notify the instructor if taking this course for writing credit.

THE MINOR IN RELIGION

A minor in Religion requires 18 credit hours in the Department and must include two advanced courses in Religion (i.e., bearing S designation only). A sound minor program consists of coherently related courses; therefore, consultation with a departmental advisor is expected.

DESCRIPTION OF COURSES

Introductory Studies in Religion

201. Introduction to Religion. (A) *Fall and Spring* (3) Mr. Livingston and Mr. Powell.

A study of theories of religion, of classical types of religious expression, and of contrasting religious views of nature, human existence, history, and deity. The course concludes with an analysis of issues confronting Western religion in its encounter with modern thought.

210. Christianity. (A) *Spring* (3) Mr. Finn, Mr. Holmes (coordinator).

A team-taught introduction to Western Christianity from the first century to the present, with emphasis on selected periods and on key theological issues, social teachings, and institutional developments.

221. Religion and Ethics (AS) *Fall* (3) Mr. Tiefel.

See course description below.

300. Islam. (AS) *Fall* (3) Mr. Williams.

See course description below.

303. Introduction to the History of Jewish Thought. (AS) *Fall* (3) Mr. Berger.

See course description below.

¹Walter G. Mason Professor of Religion.

²Visiting Wm. R. Kenan, Jr. Professor of Humanities.

³Sophia and Nathan S. Gumenick Visiting Associate Professor of Judaic Studies.

311. Hinduism. (AS) *Fall* (3) Mr. Van Horn See course description below.

312. Buddhism. (AS) *Fall and Spring* (3) Mr. Van Horn.
See course description below.

313. History of Religion in East Asia. (AS) *Spring* (3) Mr. Van Horn.
See course description below.

Biblical Studies

301. History and Religion of Ancient Israel. (AS) *Fall* (3) Mr. Tuell.

A study of history and traditions of ancient Israel, with emphasis upon the setting, transmission, context, and theological self-understanding reflected in biblical texts.

302. Christian Origins. (AS) *Fall and Spring* (3) Mr. Finn and Mr. Tabor.

A study of the origin and development of earliest Christianity. The course focuses on the New Testament and other ancient documents with attention to the Greco-Roman historical contexts of the emerging Christian faith.

304. The Hebrew Prophets. (S) *Spring* (3) Mr. Towner.

A study of the function and message of the Hebrew prophets within their political and social setting. (Alternate years.)

305. Biblical Wisdom: Job and Ecclesiastes. (S) *Fall* (3) Staff. *Prerequisite:* none, but 301 recommended.

A study of the Wisdom Literature of Ancient Israel, with emphasis on Job and Ecclesiastes. The literature will be examined within its historical and intellectual context; the course focuses on the distinctive religious and humanistic characteristics of Israelite wisdom. (Alternate years, not offered 1988-89.)

403. The Letters of Paul. (S) *Spring* (3) Mr. Tabor. *Prerequisite:* Religion 302.

A study of the letters of Paul. The course will focus on the mission and message of Paul set in the context of Greco-Roman culture. It will also consider the influence of Paul's theology in later centuries.

404. Jesus in Early Christianity. (S) *Spring* (3) Mr. Tabor. *Prerequisite:* Religion 302.

An inquiry into the development of the earliest traditions about Jesus. The course will concentrate on the New Testament Gospels. It will also consider other sources of the period, including Paul, later Gospels, and Greco-Roman biographies.

407. Visions of the End. (S) *Fall* (3) Mr. Tabor.

The emergence, development and significance of early Jewish and Christian apocalyptic thought. The course will examine the ways Jewish and Christian groups viewed the "end of the world" in and around the first century.

Studies in Asian Religion and Islam

300. Islam. (AS) *Fall* (3) Mr. Williams.

A study of the origins, major ideas, practices, institutions and development of Islam within the context of Muslim history.

311. Hinduism. (AS) *Fall* (3) Mr. Van Horn.

A study of the origins and development of Hindu ideas and practices. Topics include Brahmanical ritual, sectarianism, casteism, and Tantrism.

312. Buddhism. (AS) *Fall and Spring* (3) Mr. Van Horn.

A study of Buddhist concepts, practices, and institutions in India, China, and Japan. The course includes both Theravada and Mahayana forms of Buddhism.

313. History of Religion in East Asia. (AS) *Spring* (3) Mr. Van Horn.

Introduction to the religious systems of China and Japan, including the literatures, histories, thought patterns, and practices of the major schools of Confucianism, Taoism, Buddhism, and Shintoism.

314. Buddhists and Englishmen. (AS) *Summer* (3) Mr. Van Horn.

This course will explore the encounter of the Buddhists and the English emerging out

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of Colonialism. English Buddhist monks and Sri Lankan "Protestant" Buddhists will be studied primarily through biographical material. (Cambridge, England 1988.)

411. Modern Hinduism. (S) Spring (3) Mr. Van Horn. Prerequisite: A College-level Asian course or permission of the instructor.

A study of classical Hindu traditions in interaction with westernization and modernization. The course emphasizes 19th and 20th century figures, including leaders of current cults. (Alternate years; not offered 1988-89.)

414. Buddhism in the Modern World. (S) Spring (3) Mr. Van Horn. Prerequisite: A college-level Asian course or permission of the instructor.

A study of 19th and 20th century Buddhist thought and institutions in Asia and the West. The course assesses new expressions of Buddhism in Southeast Asia, Sri Lanka, China, Japan, and America. (Alternate years.)

Studies in Religious Ethics

221. Religion and Ethics (AS) Fall. (3) Mr. Tiefel.

An introductory study of western religious ethics. The course examines the relationships between religious belief and ethics in biblical, Jewish, Roman Catholic, Protestant, and humanistic writings.

322. Medicine and Ethics. (AS) Spring (3) Mr. Tiefel.

A study of moral and religious problems arising in such biomedical issues as abortion, human experimentation, euthanasia, genetic engineering, organ transplants, and behavior control.

323. Warfare and Ethics. (AS) Fall (3) Mr. Tiefel.

A study of moral and religious issues in warfare, including classical and contemporary views. The course focuses on such topics as pacifism, just war, and nuclear weapons.

324. Jewish Ethics. (AS) Spring (3) Staff.

See course description below.

325. Organizations and Ethics. (AS) Spring (3) Mr. Tiefel.

A study of religion and morality in organizations, especially in business, government, and the military. Issues include claims of moral autonomy, the nature of corporate and personal integrity, and conflict between organizations, the public, and individuals. Visitors offer case studies.

327. Aging and Ethics. (S) Spring (3) Ms. Spielman.

A study of ethical issues and value conflicts arising in aging, such as justice among generations, parent care, euthanasia, and problems of consent for research and treatment of Alzheimer's disease. Readings include Jewish, Christian, Hindu, Confucian, and humanist materials. (Alternate years; not offered 1988-89.)

328. Procreation and Ethics. (S) Spring (3) Ms. Spielman.

A study of ethical issues related to procreation, including contraception, abortion, such new reproductive technologies as in vitro fertilization and surrogate motherhood, and reproductive health hazards in the workplace. (Alternate years.)

Studies in Western Religious History and Thought

204. Issues in Religious Feminism. (S) Fall (3) Ms. Spielman.

A study of such feminist issues as women's experience, concepts of God, interpretations of texts, and ethics. The course also includes an in-depth study of three major thinkers. It uses primarily but not exclusively Christian sources.

330. Significant Books in Western Religion. (AS) Fall (3) Mr. Holmes.

A study of selected significant works in western religion patterned upon the Great Books Program and its discussion method. The course includes instruction and practice in expository prose. Since its content changes annually, students may repeat this course once.

333. Christianity: The Early and Medieval Periods. (S) Fall (3) Mr. Finn. Prerequisite: Religion 210 or Religion 302.

A study of central themes in Christianity from the second through the thirteenth centuries, especially, Christ, the human predicament, the sacraments, the church, faith and

reason, and monasticism. The course emphasizes reading primary texts in translation and discussion.

334. Christianity: The Early Modern Period. (S) Fall (3) Mr. Holmes.

A study of personalities, institutional changes, and theological movements in European and British Christianity from the Reformation through the eighteenth century. Includes Lutheranism, Calvinism, Anabaptism, Protestant Radicalism, The Roman Catholic Reformation, the English Reformation, and Methodism and the Evangelical Revival. (Alternate years.)

335. Modern Religious Thought: The Enlightenment to Existentialism. (S) Fall (3) Mr. Livingston.

A study of the major developments in western religious thought from the eighteenth century to the Second World War, with attention given to such thinkers as Hume, Kant, Rousseau, Hegel, Newman, and Kierkegaard and to the religious significance of such movements as Rationalism, Romanticism, Idealism, Darwinism, and Existentialism.

336. The Justification of Religious Belief. (S) Spring (3) Mr. Livingston.

A study of the nature of religious experience and belief and the problems of justifying religious claims in the light of current demands for empirical or scientific verification and the challenge of relativism. (Alternate years; not offered 1988-89.)

337. Speaking of God. (S) Spring (3) Staff.

A study of warrants and rationality of God-language, including such considerations as the nature, use, meaning and justifiability of language about God in both philosophical and religious sources. (Alternate years; not offered 1988-89.)

338. Death. (S) Fall (3) Mr. Tiefel.

A study of biblical, Jewish, Christian, Eastern, humanistic, and psychic claims about death and an afterlife and of historical and contemporary views of the limits and responsibilities inherent in mortality.

340. Roman Catholic Thought Since 1800. (S) Spring (3) Staff.

Themes studied include Church and state relations and political liberalism, the social encyclicals, papal authority and the infallibility debate, the development of dogma, Liberal Catholicism, Neo-Thomism, Modernism, Vatican II, and liberation theology. (Not offered 1987-88.)

Studies in American Religion

347. American Sects and Cults. (S) Spring (3) Mr. Holmes. *Prerequisite:* One of the following: Religion 201, 210, 333, 334, 352, 353 or 354.

An examination of the development and teachings of minority groups differing from the mainstream of American religion, such as the Adventists, communitarians, Mormons, Black Muslims, and certain fundamentalist, holiness, and charismatic movements. (Alternate years.)

348. Afro-American Religion. (S) Spring (3) Mr. Kinney.

A historical survey of the Afro-American religious experience that will examine African antecedents, slave religion and the development of Black churches and religious organizations from the colonial period to the present.

352. Religion in Colonial America (S) Fall (3) Mr. Holmes.

A study of religious diversity in the thirteen colonies from the transplantation of European religion through the rise of religious freedom. Includes religion and settlement, established churches, sectarian and utopian movements, the Great Awakening and evangelicalism, and religion in Virginia. (Not open to students who have taken Religion 345.)

353. Religion in Nineteenth-Century America. (AS) Spring (3) Mr. Holmes.

A study of religion in antebellum and Victorian America. Includes revivalism, immigration and Nativism, Black religion, religion on the Frontier, Southern religion, theological challenge and response, Fundamentalism, Restorationism, Mormonism, Adventism, religion and social reform, and denominational life and worship. (Not open to students who have taken Religion 346.)

354. Religion in Twentieth-Century America. (AS) Fall or Spring (3) Mr. Holmes.

RELIGION

A study of religion from 1900, including theological developments, World War I and pacifism, the Twenties and the Depression, World War II and religious revival, the ecumenical movement, the churches and minorities, Vietnam and radical change, and the conservative reaction. (Not offered 1988-89.)

Judaic Studies

230. Images of the American Jew. (AS) Fall (3) Staff.

A critical exploration of the tensions and ambiguities within twentieth-century American Jewish life as depicted in literature and film. (Not offered 1988-89.)

303. Introduction to the History of Jewish Thought. (AS) Fall (3) Mr. Berger.

A study of the biblical origins of Judaism followed by an examination of representative literature from critical periods in the history of Jewish thought: rabbinic, medieval, and modern.

324. Jewish Ethics (AS) Spring (3) Staff.

An investigation of the different ways Jews have analyzed moral issues such as self-defense, abortion, the allocation of limited resources. (Alternate years; not offered 1988-89.)

329. The Rabbinic Mind. (AS) Fall (3) Staff.

A study of how biblical religion became Judaism. An exploration of the impact of the Talmudic rabbis—the ways they changed existing communal practice, understood their own authority to initiate such change, and consequently transformed Jewish self-understanding. (Alternate years; not offered in 1988-89.)

332. Encounters Between Judaism and Modernity. (S) Spring (3) Mr. Berger.

A study of the challenges to Jewish life and thought, self-understanding and survival posed since the 17th century by Enlightenment, emancipation, and extermination, including an analysis and critique of Jewish responses. (Alternate years.)

339. Midrash: Jewish Interpretations of Scripture. (S) Spring (3) Staff.

An examination of various types of Jewish interpretation of biblical texts. The course will explore not only the changing modes of commentary from Talmudic to modern times, but also the changing concerns of the commentators themselves. (Alternate years; not offered 1988-89.)

341. Judaism in America. (A) Fall (3) Mr. Berger.

A study of the arrival of the Jews in America, the development of the religion in the new world, and the contemporary Jewish experience in America. The course will include a study of leading Jewish thinkers and writers.

351. The Holocaust. (S) Spring (3) Mr. Berger.

A study of religious and ethical aspects of the destruction of European Jews under Nazi rule. Readings include descriptions of these events and theological responses by Jews and Christians focusing on meaning, religious self-understanding, responsibility and divine and human justice.

465. Judaism in American Fiction. (S) Spring (3) Mr. Berger.

Course explores contemporary Judaism as it is portrayed in various novels and short stories. Our concerns include: how American Jewish writing is distinctive; the impact of Israel and the holocaust; Jewish/Christian relations; and images of the American Jewish future. (Cross-listed as English 465.)

Independent Studies

481, 482. Independent Study in Religion. (S) Fall and Spring (3) Staff.

A program of extensive reading, writing, and discussion in a special area of religion for the advanced student. Students accepted for either course will arrange their program of study with appropriate members of the Department. Permission of the chairman required.

495, 496. *Fall and Spring* (3, 3) Staff.

Students admitted to Senior Honors in Religion will be responsible for (a) reading and research supervised by a faculty member designated by the chairman, (b) presentation of an honors essay acceptable to the examining committee and submitted by April 15 of the student's senior year, and (c) satisfactory performance in an oral examination based on the honors essay and related background. Consult the chairman for eligibility, admission and continuance requirements.

Sociology

PROFESSOR KREPS (Chair). PROFESSORS EDMONDS, FAIA, RHYNE, STANFIELD (Cummings Professor), and VANFOSSEN. ASSOCIATE PROFESSORS ADAY, BECKHOUSE, ITO, KERNER, LIGUORI, and THEMO.

THE SOCIOLOGY PROGRAM

Members of the Department of Sociology emphasize one or more of the following to different degrees: (1) to help students understand the nature of man in society, with particular emphasis on the issues and complexities of modern society; (2) to enhance students' knowledge and capacities for critical and original thought by involving them in the accumulation of scientific information and the development of research and analytic skills; (3) to provide opportunity for students to have a personal educational experience which enhances their own lives and encourages responsible concern for the quality of society; (4) to contribute to the field of Sociology through research, publication, and involvement in professional associations and activities; (5) to recruit promising students into the profession of Sociology; and (6) to serve the University and society in general, by making available the professional expertise of sociologists. The Department believes the above purposes to be compatible with one another and that Sociology must reflect the diversity found in its principal object of study—namely, modern society.

Concentration in Sociology requires a minimum of thirty-three semester credits. Students must take 201, 202, 303, 305, and 307 (recommended taken in that order), and at least two 400 level courses (440, 480, 481 do not satisfy this requirement).

A minor in Sociology must consist of at least 18 credits which must include Sociology 201, 202, and four or more other courses in Sociology at the 300-400 level.

Many courses offered by the College's program in the foreign universities are accepted toward a Sociology concentration, but not as substitutes for the required courses. The minimum credit hour requirement for a concentration is intended to encourage the student to pursue a wider range of electives in order to develop a broad perspective. It also allows the student to develop a special field of interest in an interdisciplinary manner.

Offices and classrooms on the second floor of Morton Hall include a statistical laboratory with computer terminals and printers. Facilities of the Computer Center include a NAS 6660 and three Prime (one 850 and two 9955's) computers, ancillary equipment, and a program library, including SPSS, SAS, Minitab and many other programs with Social Science applications. Eastern State Hospital provides opportunity for research and field work in the Sociology of Mental Illness. Virginia Institute of Marine Science offers research opportunities in maritime sociology.

Within the Department a wide range and variety of courses are offered covering most of the substantive fields of the discipline as well as its methodology. Whenever possible, the Department attempts to introduce courses affording opportunities for field work application and direct experience. In response to varying needs, interests, and expertise of individual students and staff members, the Department provides means for students to pursue independent research and studies through 490 (Independent Research), 480, 481 (Readings in Sociology), and 495-496 (Honors). Also, the format of 440 (Special Problems in Sociology), allows staff members to present seminar courses on a one semester basis, which gives them an opportunity to expand a new or specialized interest or research topic. The 440 format allows flexibility, variety, and a means to respond quickly to particular interests expressed by students. It also represents one of the many results of the effective Undergraduate Studies Committee within the Department.

Students satisfy the concentration writing requirement in Sociology by taking any 300 or 400 level course (including Readings, Independent Research, and Honors courses) that has been designated in the "Registration Schedule" as writing intensive. The instructor's approval is required in advance.

DESCRIPTION OF COURSES

201-202. Introduction to Sociology. (A) *Fall and Spring* (3) Staff.

An introduction to the study of human society with emphasis on the basic principles of sociology. Principal concepts developed include society, culture, status and role, socialization and personality, stratification, social organization and institutions and social change. This course, in providing an integrated set of general principles, is the appropriate introduction to further study in sociology. Sociology 201 is prerequisite for Sociology 202.

303. Sociological Theory. (S) *Fall* (3) Mr. Kerner.

Examination of the historical foundations of sociological theory and the establishment of a basis for rational, objective social phenomena. The contributions of 19th century theorists are traced to provide a framework for the study of contemporary concepts in the field.

305. Social Research. (S) *Spring* (3) Mr. Kreps and Mr. Aday. *Prerequisites:* Sociology 201-202.

Examination of the major issues and strategies involved in conducting sociological inquiry. Special attention is given to such topics as casual inference, sampling frames, structured and unstructured observation, data analysis, and research design and implementation.

307. Introduction to Social Statistics. *Fall* (3) Mr. Faia.¹

The applications and limitations of statistics are presented as means of providing tools whereby statistical methods may be recognized, interpreted, and applied in sociological research. Included are considerations of averages, measures of dispersion and variance, simple linear correlation and sampling theory. *Three class hours, two laboratory hours.*

310. Social Problems. (S) *Fall and Spring* (3) Mr. Edmonds, Mr. Faia, and Mr. Kerner.

A survey of social problems such as poverty, urban conditions, race relations, delinquency and crime, and other recurring problems of major concern to contemporary society. The analytic perspective is sociological, stressing concepts drawn from substantive sub-fields of the discipline.

319. Population Problems. (S) *Fall* (3) Mr. Faia.

A consideration of the manner in which populations grow and decline and the effects of such change on society. Emphasis is on theories of population growth, distribution, births, deaths, internal and international migration, bio-social and sociological composition. Included are discussions of the sources of data and techniques and methods of analysis, as well as contemporary population problems.

322. Criminology. (S) *Fall and Spring* (3) Mr. Aday.

An analysis of criminal behavior—its origins, trends, and responses by official agencies. Some issues in the administration of police systems, criminal courts, and correctional institutions will be examined.

326. Ethnicity. (S) *Spring* (3) Mr. Liguori.

The study of ethnicity in historical and contemporary perspective in the United States. Focus upon dynamics of ethnicity, stressing those social processes which surround it. Major emphasis upon the substantive study of ethnicity in a variety of specific enclaves.

328. Blacks in American Society. (S) *Fall* (3) Mr. Ito.

Changing economic, political, religious, educational and residential conditions of blacks in the United States are discussed in terms of their historic and social consequences. Included are themes that show both unity (e.g., parallel institutions and culture-building) and diversity (e.g., social class and region).

¹See note on page 41 concerning credit for statistics courses.

329. Changing Gender Roles in Contemporary Society. (S) Fall (3) Ms. Themo. Prerequisite: Sociology 201 or Psychology 201.

Examination of contemporary changes in gender roles and consequences of being female and male in terms of roles, rewards, costs and identities. Analysis of biological vs. cultural determination of gender differences; social, economic, political functions of role determinants; and reciprocity of gender roles in terms of exchange theory and power bargaining.

330. Sociology of Mental Illness. (S) Fall or Spring (3) Staff.

A seminar on the sociological aspects of mental illness and mental health. The social and cultural sources of mental disorders, definitions, types, distribution within the social structure and sociological factors in the treatment of mental illness will be scrutinized. Consideration of the mental hospital as a social system.

331. Mental Health in the Community. (S) Fall or Spring (3) Staff. Prerequisite: Sociology 330.

Seminar-practicum in community mental health. Explores origins and development of community mental health as an alternative to institutional treatment. Focuses on temporary mental health systems and agencies in the community and their preventive, diagnostic and treatment services to clients. Need assessment and evaluation included. Supervised practicum in a local mental health service.

332. Marriage and the Family. (S) Fall and Spring (3) Mr. Beckhouse.

An examination of structural and interactional dimensions of interpersonal relationship in premarital, marital, and postmarital situations. Topics covered include dating and mate selection, sex before marriage, family structures, marital satisfaction, parenting, divorce and remarriage, and alternative life-styles.

333. Political Sociology. (S) Fall (3) Mr. Rhyne.

An introductory examination of the social bases of political behavior. Topics of consideration will include the formation of ideologies and the organization of ideological movements, particularly as they are influenced by socio-economic status, and the impacts on voting behavior and political participation of such variables as age, sex, class, ethnicity, occupation, and region.

335. Sociology of Education. (S) Spring (3) Mr. Ito.

Public education as social institution, as bureaucratic system, and political arena. Current issues such as equality of educational opportunity, teacher militancy, community control and school reform are covered. Selected topics in higher education are considered.

346. Maritime Sociology. (S) Fall (3) Mr. Liguori.

Description and analysis of the life styles of people oriented primarily to maritime occupations and environments. Attention is directed to inshore vs. distant-water ship-board life style, the study of specific maritime work organizations distinguished on the basis of technology and research on 'isolated' fishing communities.

349. Human Geography and The Environment. (S) Fall (3) Mr. Rhyne.

A study of the adjustment of human societies to their physical environment. Emphasis is on the spatial distribution of human population, cultural forms, and social types. Examination of social and cultural bases of environmental pollution and its control.

350. Small Group Behavior. (S) Fall (3) Mr. Beckhouse.

Social psychological examination of the theory and research of small group behavior. Structural properties of small groups such as leadership, communication, size, status and power hierarchies will be examined. Group processes such as status consistency, interpersonal attraction, conformity, deviance and social control are also considered.

352. Complex Organizations and Contemporary Society. (S) Spring (3) Mr. Kreps and Mr. Kerner.

The course presents both an historical and contemporary approach to study of organizational behavior with special emphasis given to impact of organizations on their environments. Recent research concerned with problems of a variety of public and private organizations will be analyzed and discussed.

354. Social Development of the Third World. (S) Spring (3) Mr. Rhyne.

Study of social structures, change, and development in Third World. Critical review of competing theories: Modernization, Mobilization, Dualism, Dependency, Imperialism. Use of research monographs reflecting geographical, cultural, and developmental diversity in the Third World and its contacts with developed societies.

360. Sociology of Sports and Leisure. (S) Spring (3) Mr. Beckhouse.

This course examines the scope of sports and leisure involvements in the United States and in other nations. With an emphasis upon social order and change and the role of sport in society, the course focuses upon such topics and issues as youth sport programs, intercollegiate athletics, sports and politics, racism and sexism in sports, sports violence, sports and the media, and the economics of sports.

386. Religion, Society and the Individual. (S) Fall (3) Mr. Edmonds.

A study of the social and psychological correlates of religious behavior in institutional, collective, and individual settings. The focus is upon ferreting out the social and psychological sources and consequences of religious institutions, movements, and the religious thoughts, feelings and actions of individuals. Studies of sects, cults and ecclesia.

407. Sociology of Aging. (S) Fall or Spring (3) Staff.

Examination of the social, cultural, and social-psychological aspects on human aging. Special emphasis is given to the middle and later years of life. Concepts and theories of aging and their consequences for older persons are analyzed. *Lecture three hours; three credits.*

408. Advanced Data Analysis. (S) Spring (3) Mr. Faia and Mr. Ito.

A review of inductive statistics and tests of significance. Measures of relationship between two or more variables will be considered, with a strong emphasis on multiple regression techniques. Individual projects will be undertaken involving computer analysis of archival survey data.

409. The Social Impact of Computers, Cybernation, and the Communications Revolution. (S) Spring (3) Mr. Faia.

The course emphasizes the "culture and technology" school of sociology. Social impacts of "high-tech" data processing, communication, and control—both social control and quality control—will be examined in several institutional areas, including socialization, economics, politics, the military, and education.

410. Deviant Behavior. (S) Fall (3) Mr. Aday and Mr. Edmonds.

A study of behavior which violates social norms, yet is not necessarily illegal or "disturbed." Focus upon the processes by which deviant labels are conferred, deviant lifestyles emerge, and deviants are "controlled."

411. Future Society. (S) Fall (3) Mr. Vanfossen.

Analysis of major strains and changes in post-industrial society and possible alternative forms of human society. Particular attention is given to cultural revolution; energy, ecology and economy; alienation; changing value and lifestyles; and personal and social freedom.

412. Human Values and Social Change. (S) Spring (3) Mr. Vanfossen.

Analysis of the forms through which people define personal and social meanings in rapidly changing society. Particular attention is given to changes in such values as norms, beliefs, ideals, ideologies, and ethics as these relate to changes in interpersonal relations and social control in such structures as family, law government, economics, sciences, and religion.

413. Urban Sociology. (S) Fall (3) Mr. Kreps.

The emergence and structure of the city in historical and cross cultural perspective, with special attention to the phenomena of urbanization and urbanism in the United States. Consideration of urban structure from both ecological and social perspectives; analysis of change in urban structure; selected problems associated with urban growth and planning.

415. Collective Behavior. (S) Fall (3) Mr. Edmonds and Mr. Kreps.

This course emphasizes the study of non-routine social behavior, from narrowly defined events such as community disasters and emergencies to crowds and social movements. The causes, defining characteristics and consequences of various types of collective behavior will be analyzed from both social psychological and sociological perspectives.

416. Revolution and Social Conflict. (S) Spring (3) Mr. Rhyne.

Social, organizational and ideological aspects of reform and revolutionary movements. Several past revolutions and power-oriented movements are compared to contemporary conflicts. Emphasis placed on structural pre-conditions, emergency groupings, dominating ideas, and power-contesting processes of these social movements.

417. Philosophical Issues in the Social Sciences. (S) Spring (3) Mr. Edmonds.

A clarification and critical examination of most general and fundamental questions about the nature of the pursuit of knowledge of man and society; bases for reliable description and explanation, specific difficulties encountered in social sciences, limits, potentialities and implications of a scientific study of man.

419. Medical Sociology. (S) Fall or Spring (3) Staff.

Sociological perspective of medical institutions, their settings, practitioners, structure and role relationships of providers and recipients. Socio-cultural dimensions of medical behavior, demography of health-illness, social epidemiology, hospital social structure, health care delivery systems. Special problems: mental illness, chronicity, elderly healthcare.

422. Sociology of Knowledge. (S) Fall (3) Mr. Stanfield.

The course consists of an extensive inquiry into the literature of the sociology of knowledge—a tradition emphasizing the relationship between mental productions and the social circumstances under which they emerge. Emphasis upon the relationships between social structure and general cognitive systems, political ideologies, social norms, and scientific ideas.

424. Class, Status and Power. (S) Spring (3) Mr. Rhyne and Ms. Themo.

Examination of structure and change in the major units of society. Central focus is upon the concepts of differentiation, hierarchy, class, caste, estate, structural dynamics, and economic, prestige, and power orders. Comparative analysis, historical and crosscultural.

438. Social Psychology of Human Groups. (S) Fall (3) Mr. Edmonds.

An examination of the sources of individual experience and behavior with particular emphasis upon relations within and between human groups: affiliation, social perception, social attribution, liking and attraction, aggression, altruism, attitudes, conformity, and compliance.

***440. Special Problems in Sociology.** Fall or Spring (3) Staff.

Selected topics in sociology. The topics to be considered will be announced prior to the beginning of the semester. Instructors may require prior approval for registration.

†480-81. Readings in Sociology. Fall or Spring (3) Staff.

Independent readings directed toward conceptual topics and substantive areas in Sociology. Students will read materials in their own area of interest in consultation with an appropriate staff member. Readings will not duplicate areas covered in courses offered in the curriculum. Prior to registration, students must obtain written permission from both the department chairman and the instructor who will direct the readings. The number of credit hours will be arranged prior to registration and cannot be changed after "add-drop" period. (480-81 will not satisfy the 400-level course requirements for concentrators.)

490. Independent Research. (S) Fall and Spring (3) Staff. Prerequisite: Sociology 305.

This course is designed to permit the Sociology concentrator to engage in independent research after completing Sociology 305 (Social Research). Working closely with a staff member as an advisor, each student will be expected to prepare a substantial research paper.

THEATRE AND SPEECH

498. Internship. *Fall and Spring* (3) Staff.

This course is designed to allow students to gain knowledge through experience in sociologically relevant settings. Students will be supervised by department faculty members. The internship includes readings in related areas of theory and research as assigned by supervising faculty.

HONORS STUDY

†495-496. Honors. *Fall and Spring* (3,3) Staff.

Sociology honors candidates enroll for both semesters of their senior year. Requirements include: oral defense of "Honors Proposal" at the end of the first semester; preparation, under the supervision of a thesis advisor, and presentation by April 15 of a completed honors essay or project; and satisfactory performance in a comprehensive oral examination which focuses on the honors these or project.¹

GRADUATE PROGRAM

The department offers the degree of Master of Arts. For degree requirements, and a full description of graduate courses in sociology, write to the department chairman for a Graduate Catalog.

Theatre and Speech

ASSOCIATE PROFESSOR BOLL (Chair). PROFESSORS CATRON and PALMER. ASSOCIATE PROFESSORS BLEDSOE, McCONACHIE, and MICKEN. ASSISTANT PROFESSOR MUCHMORE. INSTRUCTORS DUDLEY, GOODLIN, KRAEMER, SCAMMON, and WESP.

When a student decides to become a theatre concentrator, he or she accepts the requirements demanded by his art—self-discipline, curiosity, cooperation and a desire for excellence—along with the responsibilities of pursuing a liberal arts education. Indeed, classes and co-curricular work in the theatre provide a firm basis for a liberal education, assuming that the student seeks to balance commitments in our program with other necessary aspects of his or her educational growth.

Further, we expect the theatre concentrator to become acquainted with all facets of theatrical practice and proficient in many. The many productions and programs of the William and Mary Theatre have been carefully designed to give students several opportunities to develop their art and craft. In addition to four major productions each year, the Department sponsors full-length productions by advanced directing students, Premiere Theatre (plays written, directed, and acted by students), and Directors' Workshop (one-act plays directed by students in directing classes).

The theatre trains the student to continue working in the theatre, to teach, or to pursue graduate studies. The broad scope of theatre at William and Mary provides an excellent base for any pursuit which demands the fusion of hard work, practical expertise and creative intelligence.

REQUIREMENTS FOR CONCENTRATION IN THEATRE

A concentration in theatre requires 36 credits in theatre courses, 32 hours of which must be according to certain areas which insure a balanced and representative program. Students considering a Theatre concentration are advised to take Theatre 204 and/or Theatre 205 early in their academic careers, preferably during Freshman year.

A specific Theatre program must contain the following minimal concentration requirements.

I. A concentrator must take—

- 204—Introduction to Theatre Arts
- 205—Introduction to Technical Production
- 300—Fundamentals of Design for the Theatrical Arts
- 301—Beginning Acting
- 380—Theatre Practicum, 2 units
- 407—Direction

¹For college provisions governing the admission to honors, see page 51.

- II. A concentrator must take 3 of the following—
 325—Survey of Western Theatre History: the Greeks to the Elizabethans
 326—Survey of Western Theatre History: the Italian Renaissance to 1900
 327—Survey of the Western Theatre: the 20th Century
 317 or 318—Playwriting
 410—History of American Theatre
 481—Dramatic and Theatrical Theory
- III. A concentrator must take 305—Stagecraft and one of the following—
 310—Scene Design
 321—Costume Design for the Theatre
 314—Stage Lighting Design

To pass the writing requirement in Theatre and Speech, concentrators must earn a "paper grade" of "C" or better in two courses from among Theatre 325, 326, 327, 410, and 481. The "paper grade," a part of the final course grade, will be the average of all short and long papers "weighted" according to the course syllabus.

Instructors in the above courses will provide a series of opportunities for students to demonstrate their ability to write essays containing sustained and well-developed thought in clear and effective prose. Instructors will comment upon and direct more than one paper in a course or more than one draft of a long paper, thus giving students the chance to benefit from the instructor's critical assessment.

MINOR REQUIREMENT

A student wishing to minor in Theatre *must* complete 23 credit hours of courses in theatre, including the following:

- Theatre 204 Introduction to Theatre Arts
- Theatre 205 Introduction to Technical Productions
- Theatre 300 Fundamentals of Design for the Theatrical Arts
- Theatre 301 Beginning Acting

At least one of the following courses:

- Theatre 325 Survey of Western Theatre History: the Greeks to the Elizabethans
- Theatre 326 Survey of Western Theatre History: the Italian Renaissance to 1900
- Theatre 327 Survey of Western Theatre: the 20th Century

At least two units of Theatre 380 Practicum in Theatre

DESCRIPTION OF COURSES

204. Introduction to Theatre Arts. (A) *Fall and Spring* (3) Mr. Palmer, Mr. McConachie and Mr. Muchmore.

The goal of the course is to assist students in viewing theatrical performances with understanding and enjoyment. The creative work of playwrights, actors, designers, and directors is examined in addition to studies and reviews of current William and Mary Theatre productions. Two lecture hours, one discussion hour.

205. Introduction to Theatrical Production. (A) *Fall and Spring* (3) Mr. Boll, Ms. Wesp.

Study and practice of technical components of the theatre: costuming, lighting, sound, properties, stage rigging and scene design, construction, and painting. *Two class hours, two laboratory hours.*

***206. Makeup.** *Fall* (2) Mr. Bledsoe.

Basic principles of makeup for theatre, television and other performance arts; a varied series of projects to develop individual skills and an awareness of how the actor enhances his "living mask" to create imaginative characterizations. *Production involvement required.*

300. Fundamentals of Design for the Theatrical Arts. *Spring* (3) Mr. Bledsoe.

An introduction to the elements and principles of design and to the methods and materials of visual expression in the theatre. Some production involvement should be anticipated. Students are urged but not required to have taken Theatre 204 and/or Theatre 205.

THEATRE

301. Beginning Acting. *Fall and Spring* (3) Mr. Goodlin, Mr. Muchmore, and Mr. Scammon.

An introduction to the arts and crafts of acting. Development of awareness of vocal, physical, and improvisational skills; a basic approach to scene and character study through exercises and creative play for individuals and small groups. Open to freshmen.

***302. Intermediate Acting.** *Spring* (3) Mr. Catron, and Mr. Muchmore.

Concentration on the development of performance skills and the use of the dramatic imagination through character studies and preparation of scenes for classroom presentation. Students are urged to allow one semester between acting classes in order to apply theories and training in productions sponsored by the department. *Prerequisite: Theatre 301.*

303. Scene Painting. *Spring* (2) Mr. Bledsoe.

Study of scene-painting techniques and an introduction to basic equipment, supplies, color-mixing, color theory, and methods of application. Students prepare exercises and function as scene painters for William and Mary Theatre productions. *Workshop four hours.*

305. Stagecraft. (S) *Fall and Spring* (3) Mr. Dudley.

Study and practice in technical problems, working drawings, construction, rigging, and handling of scenery, properties, backstage organization, and sound effects. Students act as technicians for William and Mary Theatre productions. *Workshop six hours, prerequisite Theatre 205 or consent of instructor.*

306. Advanced Stagecraft. (3) Mr. Boll.

Study and practice of advanced technical practices through lecture, discussion, research, and individual projects. Emphasis is placed on construction, analysis, graphics, material selection, theatre sound and systems, scene shop topography and maintenance, technical direction. *Prerequisite: Theatre 305. (Not offered 1988-89.)*

307. Costume Patterning and Construction. (S) *Fall and Spring* (2) Ms. Wesp.

An introduction to the principles and skills basic to patterning and construction of costume garments and accessories for both period and modern production. Students prepare exercises and function as technicians for the William and Mary Theatre productions. Two class hours, five laboratory hours. *Prerequisites: Theatre 205 or permission of the instructor.*

308. History of Fashion and Clothing. (S) *Fall* (3) Ms. Wesp.

History of period costume and clothing from Biblical and Egyptian through contemporary fashion; lecture research and field trips.

310. Scene Design. *Fall* (3) Mr. Bledsoe.

Planning the visual appearance of the stage: a series of exercises in the analysis of plays, historical research, artistic conceptualization, and graphic presentation. Emphasis is placed on drafting and the preparation of drawings and water-color renderings. Six studio hours. *Prerequisites: Theatre 204 and Theatre 300.*

313. Introduction to Stage Lighting. (S) *Fall* (3) Mr. Boll.

Methods and materials of stage lighting, with emphasis on the study of the functions and qualities of light, instruments, control equipment, and procedure. Students act as technicians for William and Mary Theatre productions. *Prerequisite: Theatre 205.*

314. Stage Lighting Design. *Spring* (3) Mr. Boll.

Theory and technique of stage lighting design, with emphasis on artistic considerations and values to the director as an interpretative tool. Students act as technicians for William and Mary Theatre productions. Two class hours, two laboratory hours. *Prerequisite: Theatre 300, 313 or consent of instructor.*

***317. Playwriting.** (S) *Fall* (3) Mr. Catron.

Students write three one-act plays. Worthy scripts may receive Premiere Theatre production. Students are urged but not required to have taken Theatre 204. Also helpful are courses in creative writing, theatre literature, and play production.

***318. Playwriting.** Spring (3) Mr. Catron.

A continuation of 317. Students may enter class second semester.

320. Theatre Administration. Fall (3) Mr. Palmer.

The principles of management applied to the fields of theatre operations, production and performance, with emphasis given to promotion, box-office procedures and house management. (Alternate years; not offered 1989-90.)

321. Costume Design for the Theatre. Spring (3) Ms. Wesp.

Principles for designing costumes for theatre are presented through lecture, demonstration, and discussion. A series of design projects develop skills in research, sketching and rendering. Two class hours, two laboratory hours. *Prerequisite:* Theatre 300 or permission of the instructor.

325. Survey of Western Theatre History: the Greeks to the Elizabethans. (S) Spring (3) Mr. Palmer.

Representative plays and staging practices of the Greek, Roman, Medieval and Elizabethan periods are studied, with an emphasis on the relationship between theatre and society. Students are urged but not required to have taken Theatre 204. (Not offered 1988-89.)

326. Survey of Western Theatre History: the Italian Renaissance to 1900. (S) (3)

Representative plays and staging practices of the Italian Renaissance, neoclassical, romantic, and early realistic periods are studied, with an emphasis on the relationship between theatre and society. Students are urged but not required to have taken Theatre 204. (Not offered 1988-89.)

327. Survey of Western Theatre: the 20th Century. (S) Fall (3) Mr. McConachie.

A theatrical examination of plays, dramatic styles and theories, staging techniques, and development of the theatre from around 1900 to the present. Lectures, discussions and research. Students are urged but not required to have taken Theatre 204.

335. Voice Training and the Actor. Fall (2) Mr. Goodlin.

The development and control of the speaking voice, including muscular neural control of breathing and speaking, the effect of voice quality on responses of the auditor, and individual work on articulation, pronunciation, and accents.

380. Practicum in Theatre. Fall and Spring (1) Staff.

Substantive participation in a major production sponsored by the department and supervised by faculty. The objective is to apply theoretical knowledge to practical in-depth experience. The course may be repeated twice for credit, but work must be in different production areas each time. Permission of the supervising faculty member is required. *Prerequisites:* Theatre 301 for acting assignments, Theatre 205 for technical assignments, Theatre 320 for management assignments.

***401. Advanced Acting.** Fall (3) Mr. Palmer.

Through research and the preparation of scenes, students will develop techniques for acting in period and nonrealistic plays. Students are urged to allow one semester between acting classes in order to apply theories and training in productions sponsored by the department. An audition might be required for enrollment. Details available in the departmental office. *Prerequisites:* Theatre 302 and permission of the instructor.

***407. Direction.** Fall and Spring (3) Mr. Catron and Mr. Bledsoe.

Study and practice in the principles of play analysis, play selection, casting, rehearsal techniques, and performance. Special emphasis is placed upon the direction of one-act play for a Studio Theatre production. *Prerequisite:* Theatre 204, 205, 301, or permission of instructor.

***408. Advanced Direction.** (3)

Advanced exercises and readings in various directorial techniques such as rhythm, tempo, key, and working with performers. Readings are designed for the individual's needs. Students conduct directorial projects in laboratory conditions, concluding the semester with a directorial project for audiences. *Prerequisites:* Theatre 407 and permission of the instructor. (Not offered 1988-89.)

SPEECH

410. History of the American Theatre. (S) (3) Mr. McConachie.

The history of theatre in America from its beginnings in Williamsburg to more recent times. Readings of plays and texts are designed to present the more significant development. (Not offered 1988-89.)

***411. Independent Studies in Theatre.** *Fall or Spring.* Staff.

Independent study on a special problem for the advanced student, arranged on an individual basis with credit according to work done.

***417. Advanced Playwriting.** *Spring* (3) Mr. Catron.

Advanced study of form and content in drama, accomplished by readings of dramatic theories and plays as well as by writing original playscripts. *Prerequisites:* Theatre 317 and 318, and permission of the instructor.

420. Popular American Drama on Stage, Screen and TV, 1830-1980. (3) Mr. McConachie.

An examination of the interaction between popular dramatic spectacles and the thoughts and actions of American audiences. The course examines stage melodramas, silent comedies, musicals, westerns, TV sit-coms and soaps seen and discussed in social-historical context. *Prerequisite:* Theatre 204 or permission of instructor. (Not offered 1988-89.)

***460. Topics.** (3) TBA. Staff.

Readings, writings, and discussions in a selected area of theatrical theory and production. Area of study will be different each time the course is offered; details available from the office of the Department of Theatre and Speech.

***479. Performance Seminar.** (3) Staff.

Advanced actors and directors focus on the work of a major playwright or the drama of an historical period to derive a performance style appropriate for the plays under consideration. Students integrate historical and critical awareness with performance skills. *Prerequisites:* Theatre 204, 205, 301, either Theatre 302 or 407, or permission of the instructor.

***480. Advanced Practicum in Theatre.** *Fall and Spring* (2) Staff.

Students will undertake a major responsibility such as designing scenery, lighting, or costumes, stage managing, serving as assistant director, or acting a substantive role in a production sponsored as supervised by the faculty.

481. Dramatic and Theatrical Theory. *Fall* (3) Mr. Palmer.

A survey of the major theories of theatre and drama from Aristotle to the present, with an emphasis on the relationship between theory and theatrical performance. Two theatre history courses (from Theatre 325, 326, 327) or permission of the instructor.

495-496. Honors in Theatre. *Fall and Spring.* Staff.

Eligible theatre concentrators a) submit an application for admission to the program in their junior year, b) write an honors thesis by April 15 of their senior year detailing their scholarly investigation of a selected subject or presenting their ideas on a creative project and c) taking a comprehensive oral examination. Consult the chairman for eligibility, admission and continuance requirements.

498. Theatre Internship. (3) Staff.

Qualified students with appropriate course work, usually after their junior year, may receive credit for a structured learning experience in a professional—quality theatre which provides an opportunity to apply and to expand knowledge under expert supervision. This practicum must be approved in advance by the Theatre faculty; monitored, and evaluated by a faculty member. Guidelines available in the departmental office.

SPEECH

201. Public Speaking. *Fall and Spring* (3) Mr. Micken and Mr. Kraemer.

Understanding and application of the principles of public speaking. Analysis of speeches based on organization, content, and delivery.

203. Voice and Diction. (3) Staff.

Study of processes of oral speech, including development of speech in young children, physics of sound, physiological, psychological and social bases of speech and phonetics. Training in voice production, articulation, pronunciation and quality.

303. Oral Interpretation. (3) Staff.

Study of basic principles of oral interpretation. Use of body, voice, analysis of materials, reading and evaluations of prose. *Three class hours, one hour practicum. (Not offered 1988-89.)*

304. Advanced Oral Interpretation. (3) Staff.

Study of and training in techniques of oral interpretation of poetry. *Three class hours, one hour practicum. Prerequisite: Speech 303 or consent of the instructor. (Not offered 1988-89.)*

309. Argumentation and Debate. Fall (3) Mr. Micken and Mr. Kraemer.

Training in the techniques and practices of argumentative speaking, study and analysis of debate propositions, preparation of the brief, research and selection of evidence, and practice in rebuttal and refutation. Lectures and class debating.

310. Principles of Group Discussion. Spring (3) Mr. Micken.

Study of logical and psychological foundations of discussion as a method of dealing with public questions, considering problems of adjustment, communication and collaborative action in small groups. Emphasis on principles, types and methods of discussion. Lectures and practice participation.

311. Fundamentals of Speech Communication Theory. Spring (3) Mr. Micken.

An examination of various theories of speech communication and application of those theories of specific social events. Attention will be given to the function of communication models, the dimension of inter-personal and intra-personal communication, non-verbal elements of communication, and analysis of attitude, change, and theory.

312. Persuasive Speaking. Fall (3) Mr. Kraemer.

Study of the principles of persuasive speaking, motivation of the audience; the development and organization of persuasive message; the place of persuasive speeches in persuasive campaigns. Students will give several persuasive speeches.

410. Special Topics in History and Criticism of American Public Address. Spring (3) Mr. Kraemer

Survey of significant speakers, speeches, or speech movements. Critical analysis of important rhetorical phenomena in its historical, political, social, and philosophical contexts. *Prerequisite: SPCH201 or permission of the instructor.*

School of Business Administration

PROFESSORS JAMISON (Dean), BRYCE, COLE, DAFASHY, KOTTAS (Zollinger Professor of Business Administration), HALTINER, McCRAY, MALLUE (Associate Dean for Administration and External Affairs), MESSMER (J.S. Mack Professor of Business Administration and Director of the Executive MBA Program), MILLER (Visiting), O'CONNELL Chessie Professor of Business Administration), PARKANY (Richard S. Reynolds, Jr., Professor of Business Administration), PEARSON (Chancellor Professor of Business Administration and Director of the Bureau of Business), RING (Associate Dean for Academic Affairs), ROBESON, J. SMITH (Quinn Professor of Business Administration and Director of the Accounting Program), STEWART, TARLETON, WARREN (D. H. Ryan Professor of Business Administration), WYER and ZAKI. ASSOCIATE PROFESSORS ARNOLD (Visiting), BOSCHEN, DITTRICK (Visiting), FLOOD, GEARY, HAWTHORN, HAYES, PULLEY, RAHTZ, SIMS, SOLOMON, TRELEVAN, WAXMAN, and WILLIAMS. ASSISTANT PROFESSORS BRAZELTON, FERNANDEZ, FURMAN (Visiting), GADD¹, GEDDES (Visiting), GOSSELIN, HOLLIDAY, JOHNSON, K. SMITH, LINDHOLM, MOORE, OLVER, SHAW (Visiting), STRONG and WHITE. SENIOR LECTURERS GREHL and WHITEHORNE.

¹Spring 1989.

The School of Business Administration offers both an undergraduate program and a graduate program in Business Administration.

The undergraduate degree program leading to the Bachelor of Business Administration (B.B.A.), which is accredited by the American Assembly of Collegiate Schools of Business (AACSB), carries a choice among four concentrations: Accounting, Marketing, Management, and Finance.

The graduate program, which is also accredited by AACSB, leads to the degree of Master of Business Administration (M.B.A.).

The Bureau of Business Research of the School renders a service to the Virginia business community with its monthly publication, the *Virginia Business Review*, which reflects current business and economic activity in the Commonwealth. The Bureau also publishes monthly the *Williamsburg Business Report*. In addition the Bureau from time to time publishes special research studies.

Further service to the business community is provided by the School through sponsorship of business seminars and projects, under the auspices of the Center for Executive Development.

Established in 1970, the School of Business Administration Sponsors, Inc., a private group with a board of directors of twenty-five executives, lends advice and support to the School.

Affirmative Action Policy

The School of Business Administration of the College of William and Mary, recognizing the diversity of our country, dedicates itself to creating an educational environment for its students that will reflect the world in which they in fact live and in which they will interact in the future.

Within this context, the School actively embraces an affirmative action policy in student recruitment and retention and in faculty and staff hiring and retention. This policy will be a guide to our education programs in business as conducted at the school. While it will not be the purpose of this policy to correct inequities of the past, it will certainly be understood that the past can influence the present.

The School of Business Administration is an Equal Opportunity/Affirmative Action Employer.

CURRICULUM REQUIREMENTS

Bachelor of Business Administration Degree

Prior to the student's junior year, only at which time, or later, admission to the School and its B.B.A. degree program may occur, the student should follow and complete the area and sequence requirements in Arts and Sciences. Also, the student should complete whatever requirements prevail in Arts and Sciences in regard to English, Foreign Language, and Physical Education. During the sophomore year, however, the student should take Business 201 and 202 (Principles of Accounting) and Business 331 (Statistics). No other Business Administration course may be taken before the student's junior year.

Prerequisites to admission to the School are six semester credits in economics and six semester credits in mathematics, and a 2.0 quality point average for all coursework attempted in which quality point grades are given. Before being graduated with the B.B.A. degree, the student must have completed all Arts and Sciences area and sequence and proficiency requirements, sixty semester credits in Arts and Sciences academic subjects, and a total of one hundred twenty semester academic credits.

Application for admission to the School of Business Administration's B.B.A. degree program normally is filed by the student during the second semester of the sophomore year through the Office of the Assistant Dean for Academic Affairs in the School of Business Administration. Such application is then acted upon by the School's Undergraduate Committee on Admissions, whereupon the student is notified directly, with the Office of Academic Support apprised of admission actions taken. A student who has achieved junior standing, has completed all Arts and Sciences area, sequence, and proficiency requirements, and has met the School of Business Administration's prerequisite

requirements, as above, will be fully admitted to the B.B.A. degree program. A student who has deficiencies in any of the above, but whose class standing is such that a Business concentration should be selected, will be considered for admission on provisional status. Provisionally admitted students will be required to give priority to completion of any deficiencies.

Upon such admission to the School of Business Administration, the student is expected to maintain a 2.0 quality point average in both business courses attempted and all courses attempted. Should a student fail to maintain these standards, he or she will be so notified by the Assistant Dean, and will be apprised that he or she has one semester to return his or her business and/or overall quality point average to at least a 2.0, that he or she should discuss the relevant academic problems with his or her advisor, and that he or she must maintain a 2.0 quality point average both in business courses attempted and in all courses attempted until his or her business and overall cumulative quality point averages reach at least a 2.0. Failure to meet these quality point average performance standards will result in the student no longer being considered a candidate for the B.B.A. degree and his or her dismissal from the School of Business Administration. In order to qualify for the B.B.A. degree, a student must have earned a 2.0 or higher quality point average in all courses for which quality point grades are given, and a 2.0 or higher quality point average in all Business Administration courses taken in which quality point grades are given.

Upon full admission to the School of Business Administration all candidates for the B.B.A. degree shall come under the jurisdiction of the School's administration, including its Undergraduate Committee on Academic Status and Undergraduate Committee on Degrees, in all matters appropriately pertaining thereto.

Students admitted to School of Business Administration undergraduate programs after May 1, 1985, must complete four semesters as admitted business students before the Bachelor of Business Administration degree will be awarded. A degree candidate must be a student admitted to the School of Business Administration's undergraduate program during the semester in which his or her B.B.A. is conferred.

The Business Administration course requirements common to all concentrations are as follows:

<i>Subject</i>	<i>Semester Credits</i>
Business 201-202 Principles of Accounting	6
Business 311 Principles of Marketing	3
Business 318 Quantitative Analysis for Business Decisions	3
Business 323 Financial Management	3
Business 327 Organizational Behavior and Management	3
Business 330 Production Management	3
Business 331 Business Statistics	3
Business 334 Introduction to Information Systems (except accounting)	3
Business 341 Business Law I	3
Business 416 Business Policy	3
<hr/>	
Total	33

The Business 331-318 sequence must be completed in the junior year. In addition, the following courses should be completed in either the fall or spring semester of the junior year: Business 311, 323, 327, and 330. Business 416 must be taken in the senior year, preferably in the last semester of undergraduate course work. Other business courses, required (including Business 341) and elective, may be taken in any semester, provided the proper prerequisites are met.

For the concentration in Accounting the remaining requirements for the B.B.A. degree are

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Subject	Semester Credits
Business 301-302 Intermediate Accounting	6
Business 303 Cost Accounting	3
Business 342 Business Law II	3
Business 401 Advanced Accounting	3
Business 404 Auditing	3
Business 405 Federal Taxation	3
Business 407 Seminar in Accounting	3
Business 409 Accounting Systems and Data Processing	3
Total	27

For the concentration in Management the remaining requirements for the B.B.A. degree are Bus. 315 and three additional business courses.

For the concentration in Finance the remaining requirements for the B.B.A. degree are

Business 414	Investments
Business 423	Corporate Financial Strategy
Business 434	Management of Financial Institutions

and any two of the following:

Business 328	Management Control Systems
Business 417	International Banking and Trade Financing
Business 499	Seminar in Portfolio Management
Economics 311	Money and Banking

For the concentration in Marketing the remaining requirements for the B.B.A. degree are any four of the following:

Business 312	Marketing Seminar
Business 313	Consumer Behavior
Business 314	Marketing Research
Business 315	Human Resource Management
Business 319	Retail Management
Business 320	Advertising
Business 412	Logistics

ELECTIVE COURSES FOR NON-BUSINESS STUDENTS

A number of undergraduate students from other disciplines choose School of Business Administration courses as electives. The School of Business Administration welcomes such students, and in the interest of providing some breadth of subject matter particularly suggests the following courses, not necessarily in sequence. (Economics 101, 102 should precede taking Business 311).

- Business 311 (Principles of Marketing)
- Business 316 (Behavioral Science and the Business Organization)
- Business 327 (Organizational Behavior and Management)
- Business 334 (Introduction to Information Systems)
- Business 341 (Business Law I)
- Business 342 (Business Law II)

It should be noted that no Business courses may be taken before the junior year, except Business 201-202 (Principles of Accounting) and Business 331 (Statistics), which may be taken in the sophomore year.

RECOMMENDED NON-BUSINESS ELECTIVES FOR BUSINESS CONCENTRATORS

The following list of Arts and Sciences courses is provided as an indication of courses appropriate for business concentrators. This is intended to provide business concentrators with the opportunity to advance their background in areas applicable to the business world and, at the same time, to promote the liberal arts orientation of the College:

1. Areas of Applied Administration

Intro. to Art Museology (Fine Arts 460)
Intro. to Public Administration (Government 351)
Topics in Public Administration (Government 451)
Theatre Administration (Theatre 320)

2. Communication Skills

Advanced Writing (English 301)
Public Speaking (Speech 201)
Principles of Group Discussion (Speech 310)

3. Human Behavior

Psychology of Organizational Behavior (Psychology 342)
Social Psychology (Psychology 314)
Small Group Behavior (Sociology 350)
Complex Organizations (Sociology 352)
Urban Sociology (Sociology 413)

4. Advanced Quantitative and Computer Skills

Computer Science (200 level or above)
Econometrics (Economics 308)
Econometric Modelling (Economics 408)
Operations Research (Mathematics 424)
Advanced Statistics (Psychology 422)

5. Resource Management

Applied Botany (Biology 106)
Environmental Geology (Geology 305)
Economic Geology (Geology 308)

6. International Specialization

Cultural Anthropology (Anthropology 202)
People and Culture (any)

7. Ethics

Ethics (Philosophy 303)
Organizations and Ethics (Religion 325)

This list was compiled through an evaluation of course content from syllabi and discussions with teaching faculty.

Please note that most Economics Department courses are not separately listed. However, many are appropriate for business concentrators. Students should discuss the above list and other economics courses with their faculty advisors.

DESCRIPTION OF COURSES: ACCOUNTING

[Junior or higher standing is required before admission to any of the following courses, except that sophomore or higher standing is required for enrollment in Business 201-202 and Business 331.]

201. Principles of Accounting. *Fall and Spring (3) Staff.*

The preparation of financial statements for external reporting. Included are the balance sheet, funds flow statement, and income statement.

202. Principles of Accounting. *Fall and Spring (3) Staff. Prerequisite: Bus. 201.*

The managerial uses of accounting data. Included are cost behavior analysis, cost measurement, budgeting, and performance evaluation.

301-302. Intermediate Accounting. *Fall and Spring (3,3) Mr. White, Mr. Geary and Ms. Smith. Prerequisites: Bus. 201-202.*

An analysis of balance sheets and profit and loss statements, together with the theory of valuation underlying the various accounts used in these statements.

303. Cost Accounting. *Fall and Spring (3) Mr. Dafashy, Mr. Gosselin, and Mr. McCray. Prerequisites: Bus. 201-202.*

Applications of cost analysis to inventory valuation and income determination. Planning and control of routine operations and nonroutine decisions. The course emphasizes the relevance of cost concepts to modern decision tools. Substantial use of problems and cases.

401. Advanced Accounting. *Spring (3) Mr. Dafashy and Mr. Hawthorne. Prerequisites: Bus. 301-302, or permission of the instructor.*

A study of consolidated statements, partnership accounting for special arrangements, fiduciary accounting and fund accounting.

404. Auditing. *Fall (3) Ms. Wyer and Mr. White. Prerequisites: Bus. 301-302.*

Auditing procedures through the application of auditing principles; standards and ethics; audit reports.

405. Federal Taxation. *Fall (3) Ms. Brazelton and Mr. Smith.*

An analysis of federal income tax laws. Development of conceptual awareness of federal income tax structure and tax planning, and gaining ability to determine solutions to tax difficulties confronting organizations.

406. Federal Taxation—Advanced. *Spring (3) Ms. Brazelton and Mr. Smith. Prerequisite: Bus. 405.*

An analysis of Federal estate, gift, and income tax topics. Current federal tax issues will be discussed, tax planning techniques will be introduced, and students will be encouraged to participate in certain phases of tax research.

407. Seminar in Accounting. *Spring (3) Mr. Geary and Mr. Hayes. Prerequisites: Bus. 301-302.*

Selected topics based upon controversial issues in accounting theory and practice.

409. Accounting Systems and Data Processing. *Fall (3) Mr. Hawthorne and Mr. Gosselin. Prerequisites: Bus. 301-302.*

The development, organization, design, analysis, and improvement of manual and automated business information systems.

410. Survey of Accounting. *Fall and Spring (3) Staff.*

A survey of the general field of accounting. Open to students of junior or higher standing not admitted to the School of Business Administration and not having taken Bus. 201 or 202.

DESCRIPTION OF COURSES: MANAGEMENT

(Junior or higher standing is required before admission to any of the following courses)

311. Principles of Marketing. *Fall and Spring (3) Mr. Moore, Mr. Olver, and Mr. Rahtz. Prerequisites: Econ. 101-102 or permission of the instructor.*

A study of the role of marketing in business and the economy. Emphasis is on the examination of functions, institutions, and policies.

312. Marketing Seminar. *Fall and Spring (3) Mr. Johnson. Prerequisites: Econ. 101-102 or permission of the instructor and Bus. 311.*

Managerial techniques in planning and executing marketing programs. Emphasis on decision making related to marketing segmentation, product innovation and positioning, pricing and promotion. Extensive use of cases, readings, and a management simulation.

313. Consumer Behavior. *Fall (3) Mr. Moore. Prerequisite: Bus. 311.*

Consumer-firm relationship is analyzed through the application of concepts drawn from contemporary behavioral science to concrete business cases and practices. Relevant concepts from the fields of cultural anthropology, sociology, and psychology are applied to problems encountered in marketing to various consumer groups.

314. Marketing Research. *Spring (3) Mr. Rahtz. Prerequisite: Bus. 311.*

Introduction to fundamentals of marketing research. Use of research information in marketing decision making. Topics include research design, interrogative techniques, data collection methods, scaling, sampling, and alternative methods of data analysis. Students design and execute their own research projects.

315. Personnel Management. *Fall and Spring (3) Mr. Solomon. Prerequisite or corequisite: Bus. 331.*

A course to provide understanding of the principles, policies, and practices used to develop a sound industrial relations program. Topics included are job analysis, the employment process, employee development, wage and salary administration, labor relations, and union negotiation.

316. Behavioral Science and the Business Organization. *Fall and Spring (3) Mr. Cole.*

A study of human behavior, development, and motivation in the business organization. Attention is given to behavioral science research in administration.

318. Quantitative Analysis for Business Decisions. *Fall and Spring (3) Mr. Dittrick, Mr. Flood, Mr. Furman, Mr. Kottas and Mr. Stewart. Prerequisite: Six credits in mathematics and Business 331.*

A course which integrates quantitative decision methods and the team approach to research problems of interest to management. Attention is given to probability theory, linear programming, and other quantitative approaches used in the analysis of business problems.

319. Retail Management. *Spring (3) Mr. Messmer. Prerequisites: Bus. 201-202, 311.*

The course will emphasize a managerial approach to the identification, analysis, planning and control of retail problems. While institutional elements will be covered, the focus will be on developing and executing retail strategy. Concepts will be explored which are applicable to large and small retailers.

320. Advertising. *Spring (3) Mr. Moore. Prerequisites: Bus. 211.*

A study of the relationship of demand stimulation to business management. Analysis of cases will emphasize the management of advertising campaigns, expenditures, and the integration of advertising efforts as part of the total marketing concept.

323. Financial Management. *Fall and Spring (3) Mr. O'Connell, Mr. Strong, Mr. Arnold, Mr. Bryce, and Mr. Williams. Prerequisites: Bus. 201-202; prerequisite or corequisite: Bus. 331.*

An introductory course covering the theory and practice of valuation, current and long-term financing of the firm, working capital management, capital budgeting, dividend policy, business expansion, and multinational financial management. Included are problems and cases.

***326. Topics in Corporate Responsibility.** (S) *Spring (3) Staff. Prerequisite: Permission of instructor.*

This course is an interdisciplinary seminar joining faculty from Anthropology, Religion, and the School of Business Administration. It explores current issues in corporate responsibility, including such questions as consumerism, lobbying, and environmental problems. Visiting executives present cases. (Same as Anthropology 326, College Course 326, and Religion 326.)

327. Organizational Behavior and Management. *Fall and Spring (3) Ms. Lindholm, Mr. Sims, Mr. Warren, Mr. Solomon, and Mr. Cole.*

A course designed to develop the capacity to recognize and manage the human or behavioral factors as well as the physical factors influencing the effectiveness with which an organization attains objectives.

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328. Management Control Systems. *Spring* (3) Mr. Bryce and Mr. Strong. *Prerequisite:* Bus. 202.

An examination of the interrelationships between financial information flows and behavior in organizations. Cases and reading introduce management control processes in responsibility centers. Topics include goal formulation, performance measurement/reporting/evaluation and systems of rewards/punishments.

329. Management of Small Business. *Fall and Spring* (3) Mr. Cole and Mr. Whitehorne.

A study of the special problems, analysis, and decision-making involved in the management of small business.

330. Production Management. *Fall and Spring* (3) Mr. Kottas, Mr. Treleven, and Mr. Tarleton. *Prerequisites:* Bus. 201-202 and Bus. 331, or taking Bus. 331 concurrently.

A course designed to familiarize the student with the production phase of business activity. Emphasis is on developing ability to use analytical methods in the design and operation of production systems.

331. Statistics. *Fall and Spring* (3) Mr. Dittrick, Mr. Flood, and Mr. Furman. *Prerequisite:* Six credits in mathematics, or permission of the instructor.¹

Basic concepts of statistical analysis within a business environment. Attention is given to solution methods via use of the computer, with both batch and terminal applications presented.

334. Introduction to Information Systems. *Fall and Spring* (3) Ms. Fernandez, Ms. Gadd, and Mr. Zaki.

Terms, concepts, and methods associated with management information systems. Topics include history, life cycle, data representation, file concepts, programming languages, and applications related to functional business areas.

335. Systems Analysis and Design. *Spring* (3) Mr. Zaki and Ms. Fernandez.

Course discusses information systems lifecycle phases which lead to the determination of requirements for and the development of the logical and physical system. The course emphasizes information analysis and the logical specification of the system. Exercises and case studies are used to develop proficiency in systems analysis techniques. *Prerequisite:* Bus 334 or equivalent.

341. Business Law I. *Fall and Spring* (3) Mr. Mallue and Mr. Waxman.

Contracts, sales, negotiable instruments and agency with emphasis on the Uniform Commercial Code.

342. Business Law II. *Spring* (3) Mr. Mallue and Mr. Waxman. *Prerequisite:* Bus. 341.

Bailments and carriers, property, mortgages, secured transactions; partnerships, corporations, securities; antitrust and unfair competition, bankruptcy, trusts and insurance.

375. Marketing Ethics. *Fall* (3) Mr. Moore and Mr. Sutlive (Anthropology).

An interdisciplinary seminar which explores the topic of ethics in a marketing context. Analysis of cases and guest speakers will serve to illustrate and accent the importance of ethical standards and practices to success in marketing.

411. Managerial Economics. *Spring* (3) Mr. Pearson. *Prerequisites:* Econ. 101-102.

A course to provide the student with an appreciation and basic understanding of the contributions of economics applied to the decision making process.

412. Logistics Management. *Spring* (3) Staff. *Prerequisites:* Bus. 311, 327, 330, 331.

A study of the total framework of resources in the management of business systems. Course emphasis will be on facility location and capacity, transportation, and the physical distribution function.

413. Purchasing and Materials Management. *Fall* (3) Staff. *Prerequisite:* Bus. 330, 334.

A course designed to provide an understanding of the procurement and control of materials from initial acquisition to the production phase. Emphasized will be the systems aspects and the interface with other management functions, particularly finance, marketing, and production.

¹See note on page 41 concerning credit for statistics courses.

414. Investments. *Fall and Spring* (3) Mr. Strong and Mr. Williams. *Prerequisites:* Bus. 201-202, 323, and 331.

An examination of the securities markets and the characteristics of the various types of securities for institutional and personal investment. Sources of investment information, approaches to investing, personal investment planning, and elements of analysis are introduced.

415. International Business Management. *Fall and Spring* (3) Mr. Parkany and Mr. Tarleton. *Prerequisites:* Bus. 201-202 and Econ. 101-102.

Introduction to international trade and investment; organization and management of the multinational company; the overseas cultural, economic, and political environments and their impact on foreign operations.

416. Business Policy. *Fall and Spring* (3) Mr. Geddes, Mr. Grehl, Mr. Whitehorne, and Mr. Warren. *Prerequisite:* Senior standing in the School of Business Administration, and Bus. 311, 323, 327, and 330.

The establishment of company-wide objectives and the subordinate plans and controls to accomplish them. This course integrates and builds upon the business administration body of knowledge to develop decision-making ability at the policy-making level of administration.

417. International Banking and Trade Financing. *Fall and Spring* (3) Mr. Parkany. *Prerequisite:* Bus. 201-202 and Econ. 101-102.

A study of the operation of the U.S. commercial banks abroad and of U.S. branches of foreign banks. Topics to be covered will include currency markets, public and private sector loans, export financing, and international payment mechanisms.

423. Corporate Financial Strategy. *Fall* (3) Mr. Haltiner and Mr. Bryce. *Prerequisite:* Bus. 323. *Prerequisite or corequisite:* Bus. 318.

Advanced topics in the theory and practice of financial decision-making. Cases and readings are used to examine the tools and techniques of financial strategy formulation and implementation under various environmental settings.

430. Special Projects. *Fall and Spring* (1, 2 or 3 credits) Staff. *Prerequisite:* Permission of the Assistant Dean and the professor.

A course designed to accommodate independent business research and special projects. No more than three of the required nine business elective credits may be satisfied by this course.

431. Business Forecasting. *Spring* (3) Mr. Flood, Mr. Haltiner, and Mr. Stewart. *Prerequisite:* Bus. 331.

Statistical forecasting using regression and time series. Emphasis on model building using the computer, and use of the models to solve practical business problems. Topics include multiple regression, classical time series, and Box-Jenkins analyses.

434. Management of Financial Institutions. *Spring* (3) Mr. O'Connell. *Prerequisite:* Bus. 323.

A study of the management of financial institutions, with particular emphasis on depository institutions. The basic themes of the course are asset/liability management, including spread management; capital adequacy; and liquidity requirements.

435. Labor Relations. *Fall and Spring* (3) Staff. *Prerequisites:* Bus. 315, 327.

A course designed to develop the capacity to manage in unionized situations. Emphasis is placed on unfair labor practice cases, collective bargaining simulations, and grievance-arbitration cases.

436. Business and Society. *Fall and Spring* (3) Mr. Parkany. *Prerequisite:* Senior standing in the School of Business Administration.

A course designed to discuss and clarify the role of the business organization in modern society and its relationship with the social, political, economic, cultural, and technological environments, both domestic and international. Cases analyzing the managerial response to external forces are analyzed.

445. Taxation and Business Decisions. *Spring* (3) Mr. Smith.

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This course is designed to provide the student with an awareness of the impact of federal income taxation on business decisions. Various income tax concepts are analyzed as the basis for developing such an awareness. Credit cannot be presented in both Bus. 405 and Bus. 445.

499. Senior Seminar. *Fall and Spring (3) Staff. Prerequisites: Bus. 201-202, 311, 318, 323, 327, 330, 331, 341.*

A course designed to take advantage of a specific expertise of a faculty member. These seminars are taught on a one-time basis, when proposed by faculty or students and approved by the School's Undergraduate Curriculum Committee.

STUDENT HONORS

Beta Gamma Sigma is the national honorary society which recognizes excellence of academic achievement in schools of business administration accredited by the American Assembly of Collegiate Schools of Business. Beta Gamma Sigma was founded in 1907 to encourage and reward scholarship and accomplishment in the field of business studies, to promote advancement of education in the science of business, and to foster principles of honesty and integrity in business practice.

GRADUATE PROGRAM

The School of Business Administration offers the degree of Master of Business Administration. For degree requirements and a full description of graduate work in Business Administration, write to the Director of Admissions and Financial Aid, School of Business Administration, for the School's graduate catalog.

School of Education

PROFESSORS NAGLE (Dean), ADAIR, BEERS, BULLOCK, CLEM (Director of Support Services), FLANAGAN, GALFO, GEOFFROY, GIESE, GULESIAN, HANNY, LASHINGER, LAVACH, MAIDMENT, PRILLAMAN, RIES, THELIN, and YANKOVICH. ASSOCIATE PROFESSORS BASS, GARLAND, LAYCOCK (Associate Dean), LOSITO, MATTHEWS, MESSIER, PATTON (Director of Teacher Education), VAN TASSEL-BASKA, and WHEELER. ASSISTANT PROFESSORS BALDWIN, DONOVAN, FRANEK, KORINEK, and POLITANO.

STATEMENT OF PURPOSE

In its undergraduate programs the School of Education seeks to extend the mission of the College to develop the "abilities that characterize a liberally educated mind: literacy, a command of language and sound argumentation in speech and writing; mathematical and scientific methodology; understanding of foreign languages and cultures; knowledge of the historical roots of our contemporary world; appreciation of the creative arts as an ordering and expression of human perceptions; and the ability to recognize and examine the values which infuse thought and action." Programs in the School of Education are founded on the conviction that good preparation of teachers requires balanced attention to studies in general education, professional education, and one or more teaching specialties. These studies combine specific investigation of educational ideas and practices with supervised laboratory, clinical, and practicum experiences, and they are designed to develop specific knowledge, skills, and attitudes that are considered to be essential to effective teaching.

The School of Education is the recognized organizational unit in the College of William and Mary charged with responsibility for preparing teachers, administrators, supervisors, and related school personnel. Within the framework of general College regulations, faculty in the School of Education formulate and implement policies and procedures related to the Elementary Education program or concentration and the various certification programs in Secondary and NK-12 Education, including instructional goals, requirements, admissions criteria, and curricula for these programs. The Dean of the School of Education is the Certification Officer for the College of William and Mary in relation to the Virginia Department of Education.

A teacher education advisory council advises the Dean and Faculty of the School of Education on matters related to the preservice preparation of elementary, secondary, and K-12 teachers. Membership in the Council consists of administrative and instruc-

tional staff from the School of Education and departments in the Faculty of Arts and Sciences and representatives from area public schools. Its charge includes ensuring ongoing collaboration in future implementation, evaluation and refinement of teacher education programs; formally and informally advocating teaching as a profession and the College's teacher preparation programs; and consideration of specific needs in teacher education related to children in special populations, including minority groups, the handicapped, and the gifted and talented.

Programs in the School of Education are accredited by the National Council for the Accreditation of Teacher Education (NCATE), and, through consultation with advisors in the School of Education, students can plan programs of study leading to professional certification by the Virginia Department of Education. By means of the Interstate Certification Compact, graduates who qualify for certification in Virginia may qualify for certification in thirty-four other states.

CONCENTRATION IN ELEMENTARY EDUCATION

The degree program in Elementary Education leads to both the Bachelor of Arts in Elementary Education and endorsement to teach either grades NK-4 or grades 4-8. Students who concentrate in Elementary Education may apply only 33 semester credits in education toward the 120 academic credit hours required for graduation.

Program Objectives for Students

Students who complete the Elementary Education program are expected to develop and demonstrate a variety of knowledge, skills, and attitudes considered by the faculty to be essential characteristics of an effective elementary school teacher. For instance, students are expected to develop and demonstrate knowledge of the disciplines and subject matter related to elementary school curriculum; the developmental characteristics of children; cultural and individual differences among children; principles of learning; principles of curriculum and instructional theory; principles of measurement and evaluation; principles of classroom management and discipline; the use of media and computers in education; the role of the school in society; federal, state, and local policies and procedures; and support services, professional organizations, and resources relevant to elementary education. With respect to skills, students are expected to develop and demonstrate their ability to communicate effectively; to assess the characteristics and learning of students; to develop and implement an instructional plan appropriate for elementary school children; to organize and manage a classroom; and to interact effectively with students, parents, and other professionals. Lastly, as they progress through the program, students are expected to develop and demonstrate respect for individual differences; respect for principles of fairness and justice; commitment to teaching and professional growth as evidenced by responsibility and enthusiasm; a positive self-concept; willingness and ability to collaborate professionally; and willingness and ability to consider alternatives judiciously.

Admissions Criteria and Procedures

Admission to baccalaureate study at the College of William and Mary does not automatically include admission to the Elementary Education program in the School of Education. Rather, students apply for admission to the Elementary Education program during the second semester of their sophomore year by completing an application form that can be obtained from the Office of the Associate Dean in Jones Hall 216. Admission to the program requires an overall quality-point average of at least 2.0 in course work completed to date. After the application form is submitted, the Director of Teacher Education verifies the applicant's prior course work and quality-point average and meets with the applicant to provide an overview of the Elementary Education program. The applicant is then interviewed by a faculty member in the program, who discusses the applicant's professional goals, evaluates his or her academic qualifications, personal characteristics, and past experiences, and makes a recommendation regarding admission. Following the interview, the applicant's admission folder and the faculty member's recommendation are submitted to the School of Education Admissions Committee for final action.

Student Advisement

Students are urged to take full advantage of the advisement services in the School of Education. During their freshman and sophomore years, they are encouraged to talk with faculty in the School about potential careers in teaching. Upon admission to the Elementary Education program, as rising juniors, each student is assigned an academic advisor who is a faculty member in the program. Before registering for the junior year, the student meets with his or her advisor in the Elementary Education program to discuss academic, personal, and professional goals, to review both the academic regulations of the College and the specific course requirements for teacher certification, and to plan a program of studies in Elementary Education. The advisor works with the student throughout his or her junior and senior years.

Course Requirements in the Elementary Education Program with Teaching Specialties in Early (NK-4) and Middle (4-8) Education

Course requirements in the undergraduate program in Elementary Education include courses in general studies, professional studies, and a teaching specialty. These three categories of courses are defined in the "Certification Regulations for Teachers" of the Virginia Department of Education and are delineated on checklists used for advisement of Elementary Education concentrators. The comprehensive listings that follow include all course work necessary to satisfy general studies, professional studies, and specialty area requirements for the Early Education (NK-4) and Middle Education (4-8) Teaching Specialties. Arts and Sciences courses should be selected to meet simultaneously the state's general studies requirements for certification and the College's area-sequence requirements for the degree.

Course Requirements for the Early Education (NK-4) Teaching Specialty

1. Educational Foundations: 5 semester hours
Ed 312—Cultural Foundations of Education (2)
Ed 314—Child Development and Learning (3)
2. General Instructional Methods: 6 semester hours
Ed 430—Teaching Exceptional Children in Early and Middle Education (2)
Ed 431—Evaluating Student Performance in Early and Middle Education (1)
Ed 432—Organizing and Managing the Classroom in Early and Middle Education (1)
Ed 433—Using Media and Microcomputers in the Classroom (1)
Ed 434—Integrating the Curriculum in Early and Middle Education (1)
3. Reading: 6 semester hours
Ed 304—Teaching Developmental Reading in Early and Middle Education (3)
Ed 408—Diagnostic Teaching of Reading in Early and Middle Education (3)
4. Language Arts—15 semester hours
Ed 416—Teaching Language Arts in Early and Middle Education (3)
Eng 210 (3)
Writ 101, or Eng 301, 401, or 402 (3)
A literature course (3)
A Speech course (3)
5. Social Science: 14 semester hours
Hist 201 or 202 (3)
Econ 101 or 102 (3)
Geo 110, Geo 305, Anth 202, Anth 314, Anth 323, Anth 330, Anth 331, Anth 340,
Anth 342, Anth 344, Anth 364, or Soc 349 (3)
One elective (3)
Ed 405—Teaching Social Studies in Early and Middle Education (2)
6. Mathematics: 8 semester hours
Two courses in mathematics or computer science (6)
Ed 407—Teaching Mathematics in Early and Middle Education (2)

7. Science: 10 semester hours
Two laboratory courses in Arts and Sciences (8)
Ed 406—Teaching Science in Early and Middle Education (2)
8. Art, Music, Philosophy, and Foreign Language: 9 semester hours
F.A. 330—Art for Teachers (3)
Mus 320—Music for Elementary School Teachers (3)
One course in art, music, philosophy, or foreign language (3)
9. Health and Physical Education: 8 semester hours
PE 307—Teaching Physical Education and Health in Early and Middle Education (4)
Activity courses in physical education (4)
10. Clinical Education: 7 semester hours
Ed 313—Clinical Experiences in Early and Middle Education (1)
Ed 490—Supervised Teaching in Early Education (6)
11. Electives: 3 semester hours selected from courses in the humanities, social sciences, or natural sciences.

Course Requirements for the Middle Education (4-8) Teaching Specialty

1. Educational Foundations: 5 semester hours
Ed 312—Cultural Foundations of Education (2)
Ed 314—Child Development and Learning (3)
2. General Instructional Methods: 6 semester hours
Ed 430—Teaching Exceptional Children in Early and Middle Education (2)
Ed 431—Evaluating Student Performance in Early and Middle Education (1)
Ed 432—Organizing and Managing the Classroom in Early and Middle Education (1)
Ed 433—Using Media and Microcomputers in the Classroom (1)
Ed 434—Integrating the Curriculum in Early and Middle Education (1)
3. Reading: 6 semester hours
Ed 304—Teaching Developmental Reading In Early and Middle Education (3)
Ed 408—Diagnostic Teaching of Reading in Early and Middle Education (3)
4. Language Arts: 15 semester hours
Ed 416—Teaching Language Arts in Early and Middle Education (3)
Eng 210 (3)
Writ 101, or Eng 301, 401, or 402 (3)
A literature course (3)
A speech course (3)
5. Social Science: 14 semester hours
Hist 201 or 202 (3)
Econ 101 or 102 (3)
Geo 110, Geo 305, Anth 202, Anth 314, Anth 323, Anth 330, Anth 331, Anth 340, Anth 342, Anth 344, Anth 364, or Soc 349 (3)
Hist 101 or 102 (3)
Ed 405—Teaching Social Studies in Early and Middle Education (2)
6. Mathematics: 8 semester hours
Two courses in mathematics or computer science (6)
Ed 407—Teaching Mathematics in Early and Middle Education (2)
7. Science: 10 semester hours
Two laboratory courses in Arts and Sciences (8)
Ed 406—Teaching Science in Early and Middle Education (2)
8. Art, Music, Philosophy, and Foreign Language: 9 semester hours
F.A. 330—Art for Teachers (3)
Mus 320—Music for Elementary School Teachers (3)
One course in art, music, philosophy, or foreign language (3)

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9. Health and Physical Education: 8 semester hours
PE 307—Teaching Physical Education and Health in Early and Middle Education (4)
Activity courses in physical education (4)
10. Additional course work to establish 15-hour emphases in two of the following:
Language Arts: no additional semester hours required (See 4. above)
Social Science: 1 additional semester hour required
Mathematics: 7 additional semester hours required
Science: 5 additional semester hours required
11. Clinical Education: 7 semester hours
Ed 313—Clinical Experiences in Early and Middle Education (1)
Ed 492—Supervised Teaching in Middle Education (6)

Concentration Writing Requirement

In order to satisfy the Elementary Education concentration writing requirement, students must earn overall averages of C or better in the following courses: Education 304, 312, 314, and 430.

Professional Semester

The professional or culminating semester of course work in the Elementary Education program combines 12 credits into one term of the senior year. The courses taken during this Professional Semester include Education 405, 406, 432, 434, and either 490 or 492. The last of these courses is student teaching. Whether a student's Professional Semester will occur in the fall or spring semester of the senior year is determined by the student, his or her faculty advisor, and the Director of Teacher Education when the student has been admitted to the program and initially develops his or her program of studies.

Retention Criteria and Procedures

To be permitted to undertake the Professional Semester in the Elementary Education program, students must successfully complete Education 304, 312, 313, 314, 407, 408, 416, 430, 431, and 433. In addition, during the semester immediately prior to their Professional Semester, students must apply for admission to student teaching and complete a tubercular examination. During the fourth week of the Professional Semester, faculty in the Elementary Education program make a formal decision on the readiness of each student to engage in student teaching. This judgment is based on whether the student has met program requirements in the areas of scholarship, teaching specialty, and professional studies, as well as on whether the student possesses the personal characteristics suitable to begin student teaching.

Exit Criteria and Procedures

To complete the program in Elementary Education, a student must successfully complete all of the general studies and professional education courses described above, including student teaching. The student's college supervisor, cooperating teacher, and school principal are each required to verify and evaluate the student's performance during a full-time student teaching experience of at least 120 contact hours with pupils in a state-accredited elementary or middle school. In addition, the student must complete the National Teacher Examination.

After verification by the Director of Teacher Education that the student has successfully completed all course and program requirements, including student teaching, general College-wide graduation requirements, and the National Teacher Examination, the Director of Teacher Education helps the student to obtain the appropriate entry-level teaching certificate in Virginia (a Provisional Certificate) or other state of his or her choice.

CERTIFICATION PROGRAMS IN SECONDARY EDUCATION

Students who plan to teach at the secondary school level declare a concentration in the subject area or areas they expect to teach, and they additionally complete 24 semes-

ter credits of professional education courses required for one of the following endorsement areas of Secondary Education: English, Foreign Language (French, German, Spanish, Latin), Mathematics, Science (Biology, Chemistry, Earth and Space Science, Physics, General Science), Social Studies, History, and Political Science. Students who complete a certification program in Secondary Education may apply no more than 24 semester hours in education toward the 120 academic credits required for graduation.

Program Objectives for Students

Students who complete a certification program in Secondary Education are expected to develop and demonstrate a variety of knowledge, skills, and attitudes considered by the faculty to be essential characteristics of an effective secondary school teacher. For instance, students are expected to develop and demonstrate knowledge of schools and schooling, including knowledge of schools as changing social systems that have relationships with the larger society and cultures; and knowledge of the social, economic, political, and ethical factors that impinge on schooling. In addition, they are expected to develop and demonstrate an understanding of important concepts related to knowing and learning; adolescence; each student's chosen academic specialization; and curriculum and instruction related to the subject matter of that discipline. With respect to the development of attitudes conducive to effective teaching, students in the program are expected to develop and demonstrate their respect for the unique potential of each human being; a view of students as individuals who need trust, respect, and unconditional positive support; respect for individual differences in a pluralistic culture; and ability to tolerate ambiguity; respect for evidence as a measure of truth and for the use of reason, intuition, and creative intelligence; and excitement for the intellectual life, for learning, and for professional development. As they progress through the program, students are also expected to develop and demonstrate their ability to recognize and apply an appropriate professional code of ethics; appreciate the functions and responsibilities of professional organizations; interact effectively as both individuals and group members; communicate effectively; make rational decisions about classroom instruction; implement instructional skills; and employ a variety of classroom management techniques.

Admissions Criteria and Procedures

Students who wish to teach at the secondary school level should apply for admission to one or more certification programs in Secondary Education during the second semester of their sophomore year at the same time they declare a concentration in one or more departments in the Arts and Sciences. Application forms can be obtained from the Office of the Associate Dean in Jones Hall 216. Admission to a certification program in Secondary Education requires an overall quality-point average of at least 2.0 in course work completed to date. After the application form is submitted, the Director of Teacher Education verifies the applicant's prior course work and quality-point average and meets with the applicant to provide an overview of the Secondary Education program. The applicant is then interviewed by a faculty member in the program, who discusses the applicant's professional goals, evaluates his or her academic qualifications, personal characteristics, and past experiences, and makes a recommendation regarding admission. Following the interview, the applicant's admission folder and the faculty member's recommendation are submitted to the School of Education Admissions Committee for final action.

Student Advisement

Students are urged to take full advantage of the advisement services in the School of Education. During their freshman and sophomore years, they are encouraged to talk with faculty in the School about potential careers in teaching. Upon admission to the Secondary Education program, as rising juniors, each student is assigned an academic advisor who is a faculty member in the program and who has special expertise in the student's academic concentration. Before registering for the junior year, the student meets with his or her advisor to discuss academic, personal, and professional goals, to review both the academic regulations of the College and the specific course requirements for teacher certification, and to plan his or her program of studies leading to

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certification in one or more subject areas of secondary education. The advisor works with the student throughout his or her junior and senior years and serves as the student's college supervisor during the culminating student teaching experience.

Course Requirements in Certification Programs in Secondary Education

Course requirements in certification programs in Secondary Education include courses in general studies, professional studies, and one or more subject area teaching specialties. These three categories of courses are defined in the "Certification Regulations for Teachers" of the Virginia Department of Education. The courses taken to meet general studies and professional studies requirements may also be applied to teaching specialty course requirements for endorsement in one or more subject areas in secondary education.

A. Course Requirements in General Studies

1. Humanities: 12 semester hours (at least one course in each area)
 - a. English grammar and composition
 - b. Literature
 - c. Art, music, philosophy, religious thought, or foreign language.
2. Social Sciences: 12 semester hours (at least one course in each area)
 - a. American history, including Virginia studies
 - b. Courses selected from history, anthropology, sociology, economics, government, psychology, history of religions, world studies, or contemporary world cultures.
3. Natural Sciences and Mathematics: 12 semester hours (at least one course in each area)
 - a. Laboratory course(s) in sciences
 - b. Mathematics (one additional course in this area may be an appropriate computer science elective)
4. School Health and Physical Education: 7 semester hours (at least one course in each area)
 - a. PE 321—Foundations of Health Education (3)
 - b. Four physical education activity courses (4)
5. Electives in humanities, social sciences, or natural sciences and mathematics: 8 semester hours

B. Course Requirements in Professional Studies¹

1. Foundational Perspectives: 10 semester hours (prerequisites for the Professional Semester)
 - Ed 301—Educational Psychology (3)
 - Ed 306—Adolescent Development (3)
 - Ed 310—Social and Philosophical Perspectives on Secondary Education (3)
 - Ed 320—Early Clinical Experiences in Secondary Education (1)
2. Professional Semester: 14 semester hours
 - a. Subject Matter Teaching Skills: 4 semester hours
One of the following courses in the area of endorsement:
 - Ed 440—Curriculum and Instructional Methods (Social Studies) (4)
 - Ed 441—Curriculum and Instructional Methods (English) (4)
 - Ed 442—Curriculum and Instructional Methods (Foreign Language) (4)
 - Ed 443—Curriculum and Instructional Methods (Mathematics) (4)
 - Ed 444—Curriculum and Instructional Methods (Science) (4)

¹Students may apply no more than 24 semester hours in education toward the 120 academic credits required for graduation.

- b. Generic Teaching Skills: 3 semester hours
 - Ed 412—Testing and Evaluation in Secondary Education (1)
 - Ed 439—Teaching Reading Through Content Areas (1)
 - Ed 461—Teaching Exceptional Children in Secondary Education (1)
- c. Clinical Education: 7 semester hours
 - One of the following courses in the area of endorsement:
 - Ed 494—Supervised Secondary School Teaching (Social Studies) (7)
 - Ed 495—Supervised Secondary School Teaching (English) (7)
 - Ed 496—Supervised Secondary School Teaching (Foreign Language) (7)
 - Ed 497—Supervised Secondary School Teaching (Mathematics) (7)
 - Ed 498—Supervised Secondary School Teaching (Science) (7)

C. Subject Area Requirements for Specific Secondary School Teaching Endorsements

ENGLISH—Dr. Mark Gulesian.

To teach English in secondary schools, students should satisfy the general studies and professional studies requirements described above as well as the teaching specialty requirements listed below:

1. A concentration in English that includes a minimum of 36 semester hours with at least one course in language study (e.g. English 304) and one course in composition (exclusive of Writing 101).
2. If possible within the concentration, a course in modern English grammar and advanced composition.
3. A course in speech (e.g., Speech 201).

Those students wishing to be certified in *English and Speech* must take six hours of speech courses in addition to the normal sequence of English courses.

Those students wishing to be certified in *English and Theatre Arts* must take six hours of drama courses in addition to the normal sequence of English courses.

FOREIGN LANGUAGE—Dr. Robert Hanny.

Students who concentrate in French, German, Spanish, or Latin may become certified to teach in secondary schools by fulfilling the general studies and professional studies requirements described above, and the teaching specialty requirements listed below. It is possible, and students are encouraged to do so, to qualify for endorsements in two languages by concentrating in one and taking at least an additional 24 hours in a second.

As stated in the description of this catalog for each foreign language concentration, students may be required to take prerequisite courses. Although these courses may not be specified as concentration requirements, they may satisfy endorsement regulations for the State of Virginia. Prospective teachers are encouraged to take "intensive" courses of the Modern Language Department, and/or serve as an apprentice teacher in the intensive language program.

French

1. A concentration in French with a minimum of 36 semester hours
2. As a part of or in addition to the concentration requirements, at least one course in composition (e.g. French 205), one course in conversation (French 306 or French 406), and one course in linguistics (Anthropology 430, English 405, French 407, or French 410)

German

1. A concentration in German with a minimum of 36 semester hours
2. As a part of or in addition to the concentration requirements, at least one course in linguistics (Anthropology 430, English 405, or German 406)

Spanish

1. A concentration in Spanish with a minimum of 36 semester hours
2. As a part of or in addition to the concentration requirements, at least one course in cultural history (Spanish 307 or Spanish 308), and one course in linguistics (Anthropology 430, English 405, or Spanish 410)

Latin

1. A concentration in Latin with at least 30 semester hours that may include up to 6 hours in classical civilization
2. At least one course in linguistics (Anthropology 430 or English 405)

MATHEMATICS—Dr. S. Stuart Flanagan.

Students at the College of William and Mary may satisfy State of Virginia certification regulations to teach mathematics and general mathematics in the secondary school. The general studies and professional studies requirements listed previously, as well as those for the teaching specialty described below, must be met.

Mathematics

Those students preparing to teach mathematics must fulfill the concentration requirements in the Mathematics Department. Within the 38 semester hours required for the concentration, students should include the following courses:

Math 308—Geometry (Offered every other year)

Math 412—Introduction to Number Theory

Math 401—Probability and Statistics

General Mathematics

Students with a modest mathematics background may be endorsed to teach general mathematics. Many science, business, psychology, economics, and computer science concentrators can satisfy the state regulations, since many courses required in these departments carry mathematics credit for certification purposes. Students should contact the program coordinator as early as possible to study in areas which enable the teacher to relate mathematics to problem solving applications, other disciplines, and cultures. The 18 semester hours requirement shall be distributed in the areas of general mathematics, algebra, geometry, probability, and statistics. See the program coordinator for courses that may satisfy the teaching specialty requirements for this endorsement.

Computer Science

At this time there are no specified requirements for endorsement in computer science. Students interested in teaching computer science in high schools should contact Dr. S. Stuart Flanagan.

SCIENCE—Dr. Ronald Giese.

Students at the College of William and Mary may satisfy State of Virginia certification regulations to teach (1) biology, (2) chemistry, (3) earth and space science (geology), (4) physics, or (5) general science by completing the following:

- a. The "concentration requirements" specified elsewhere in this catalog for one of the following departments: biology, chemistry, geology, or physics
- b. The General Studies and Professional Studies course requirements for certification programs in Secondary Education (See Sections A and B above).
- c. Any additional coursework specified immediately below for the particular endorsement desired

Students completing the requirements for an endorsement in biology, chemistry, earth science, or physics may be endorsed in a second of these areas of science by completing a minimum of 18 semester hours in the second endorsement area provided the coursework specified below for that particular endorsement is included.

Biology

1. A concentration in biology which includes at least one botany and one zoology course
2. One course in each of the following: organic chemistry, inorganic chemistry, physics, mathematics

Chemistry

1. A concentration in chemistry which includes at least one course in organic chemistry and one course in physical chemistry
2. One course in each of the following: biology, physics, and calculus

Earth and Space Science

1. A concentration in geology
2. At least one course in each of the following: astronomy (e.g., Physics 176—Introductory Astronomy), oceanography (e.g., Geology 306—Marine Geology), meteorology (e.g., Marine Science 505—Problems in Marine Science, Meteorology), biology, mathematics, and chemistry or physics

Physics

1. A concentration in physics
2. At least one course in each of the following: chemistry, biology, and calculus

General Science

1. A concentration in any discipline
2. Six semester hours in biology
3. Six semester hours in chemistry
4. Six semester hours in physics
5. Twelve semester hours in earth and space science (specific courses by advisement of Program Coordinator)

SOCIAL STUDIES, HISTORY, POLITICAL SCIENCE—Dr. Ronald Wheeler.

Students wishing to teach social studies, history, or political science in the secondary school must have state certification in order to do so. Students must fulfill the general studies and professional studies requirements described previously and the requirements for the particular endorsement area listed below:

Social Studies

1. A concentration in the History Department and/or Government Department
2. A minimum of 18 semester hours in history
3. A minimum of 12 semester hours in government
4. A minimum of 6 semester hours in economics
5. A minimum of 6 semester hours in geography

History

1. A concentration in the History Department
2. A minimum of 24 semester hours distributed among courses in American history (including Virginia studies) and world history
3. A minimum of 3 semester hours in economics

Political Science

1. A concentration in the Government Department
2. A minimum of 6 semester hours in economics

Professional Semester

The professional or culminating semester of course work in all certification programs in Secondary Education occurs during the second semester of a student's senior year

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and includes 14 credit hours of course work. The five courses taken during this Professional Semester include Education 412, 439, and 461; either 440, 441, 442, 443, or 444; and either 494, 495, 496, 497, or 498. The last of these five courses taken during the Professional Semester is student teaching.

Retention Criteria and Procedures

To be permitted to undertake the Professional Semester in any of the certification programs in Secondary Education, students must successfully complete Education 301, 306, 310, and 320. In addition, during the semester immediately prior to their Professional Semester, students must apply for admission to student teaching and complete a tubercular examination. During the fourth week of the Professional Semester, faculty in the Secondary Education program make a formal decision on the readiness of each student to engage in student teaching. This judgment is based on whether the student has met program requirements in areas of scholarship, teaching specialty, and professional studies, as well as on whether the student possesses the personal characteristics suitable to begin student teaching.

Exit Criteria and Procedures

To complete a certification program in Secondary Education, a student must successfully complete all of the general studies courses, professional education courses, and academic courses in his or her particular concentration described above. The student's college supervisor, cooperating teacher, and school principal are each required to verify and evaluate the student's performance during a full-time student teaching experience of at least 120 contact hours with pupils in a state-accredited secondary school. In addition, the student must complete the National Teacher Examination.

After verification by the Director of Teacher Education that the student has successfully completed all course requirements, including student teaching, general College-wide graduation requirements, and the National Teacher Examination, the Director of Teacher Education helps the student to obtain the appropriate entry-level teaching certificate in Virginia (a Provisional Certificate) or other state of his or her choice.

CERTIFICATION PROGRAM IN PHYSICAL EDUCATION NK-12

For requirements see Physical Education Department section.

MINOR IN EDUCATION

Students who do not concentrate in Elementary Education may complete a Minor in Education consisting of a minimum of 18 semester hours. The Minor emphasizes the academic study of education as a field of inquiry. Such study is a valuable component of a liberal education and a pertinent support area for several professional fields. Specific information on the Minor in Education and a form for declaring that minor are available from the Office of the Associate Dean in Jones Hall 216.

SUPPORT SERVICES, FACILITIES, AND PROGRAMS

Clinical Experiences

In collaboration with faculty, the Director of Teacher Education in Jones Hall 310 is responsible for arranging and coordinating all clinical educational experiences, including early field experiences, clinical experiences within courses, and student teaching. These clinical experiences are closely coordinated in an effort to reduce duplication for students, faculty, and public school personnel.

Learning Resource Center

The Learning Resource Center includes both a Curriculum Materials Library in Jones Hall 209 and a Media Preparation Laboratory in Jones Hall 231 and 235. The collection of educational materials in the Curriculum Materials Library is intended to support all

instructional programs in the School of Education, and it includes curriculum guides, teaching aids, games, media, elementary and secondary school textbooks, selected periodicals, and testing instruments. Included in the Media Preparation Laboratory are audio-visual equipment and supplies for developing instructional materials in support of all educational programs in the School of Education.

Swem Library

Books and periodicals that support the various teacher education programs in the School of Education are ordered on a continuing basis by faculty in the School of Education for the collection in Swem Library.

National Teacher Examination

All persons who wish to be certified to teach in Virginia must take the National Teacher Examination and obtain passing scores on the three tests of the Core Battery and the appropriate Specialty Area Test. Applications for and specific information about the NTE, which is given each spring in the School of Education, may be obtained from the Director of Support Services in Jones Hall 310.

State Certification

The Director of Teacher Education in Jones Hall 310 processes all applications for teaching certificates in Virginia and in other states. Completed applications and all required fees should be filed with the Director of Teacher Education by June 1 of the year of graduation.

Educational Career Planning and Placement

The School of Education maintains a Placement Office in Jones Hall 310 to assist both current students who plan to teach and graduates who wish to change their employment. No registration fee is charged, and all students and graduates of the School of Education are urged to avail themselves of this service by filing and maintaining complete and current placement records with the Placement Office. Undergraduates are urged to begin developing their placement files as early as the first semester of their junior year.

Kappa Delta Pi

Kappa Delta Pi, an honor society in education, was first organized in 1911, and the Alpha Xi Chapter at the College of William and Mary was chartered in 1922. The purpose of Kappa Delta Pi is to encourage high professional, intellectual, and personal standards and to recognize graduates of the College for their outstanding contributions to education. To this end, the organization invites to membership persons who exhibit commendable personal qualities, worthy educational ideals, and sound scholarship. The organization endeavors to maintain a high degree of professional fellowship among its members and to quicken professional growth by honoring achievement in educational work. Both men and women are eligible for membership.

The Alpha Xi Chapter of Kappa Delta Pi annually offers a \$150 scholarship to a student in the School of Education who demonstrates both scholarship and outstanding professional qualities. Inquiries about this scholarship should be forwarded to the Director of Support Services in Jones Hall 310.

GRADUATE STUDY

Graduate study in education is available to all who have completed with merit an undergraduate degree program at an accredited institution. The School of Education awards a Master of Arts in Education in the fields of Elementary Education, Secondary Education, Reading, Museum Education, Marine Science, and Gifted Education; a Master of Education in the fields of Counseling, Special Education, Educational Administration, and School Psychology; and both an Educational Specialist (30 semester hours beyond the Master's degree) and a Doctor of Education in the fields of Educational

SCHOOL OF EDUCATION

Administration, Higher Education Counseling, and Counseling/School Psychology. For detailed information about these graduate programs, interested persons are advised to consult the School of Education Graduate Program Catalog or contact the Associate Dean in the School of Education.

DESCRIPTION OF COURSES

301. Educational Psychology. *Fall and Spring (3) Mr. Bass and Mr. Ries. Open only to second semester sophomores, juniors and seniors.*

Examines selected theories and research findings dealing with human learning. Special emphasis is placed upon the basic factors of motivation, learning, retention, and transfer and the ways in which theoretical and empirical findings have been translated into educational practice. A student may not apply both Ed 301 and Psych 341 toward degree requirements.

302. Human Growth and Development. *Fall and Spring (3) Mr. Lavach. Open only to second semester sophomores, juniors and seniors.*

Examines selected theories and research findings dealing with progressive human growth and development from conception to early adulthood. Major emphasis is placed on genetics, sensory-motor development, cognition, personality, perception, and emotion. A student may not apply both Ed 302 and Psych 362 toward degree requirements.

304. Teaching Developmental Reading in Early and Middle Education. *Fall and Spring (3) Mr. Lashinger.*

A basic course on the fundamentals of reading instruction in elementary and middle schools. This course examines and reviews the entire school reading program from reading readiness to reading in the content areas through grade eight.

306. Adolescent Development. *Fall and Spring (3) Mr. Politano and Mr. Ries.*

Explores adolescent development from three perspectives: theory, research, and contemporary social forces. It is eclectic in its orientation. Rather than adopting one theoretical position, various views will be examined with a discussion of the strengths, weaknesses, and contributions of each.

310. Social and Philosophical Perspectives on Secondary Education. *Fall and Spring (3) Mr. Garland and Mr. Losito.*

An introduction to historical, sociological/anthropological, legal, and philosophical perspectives on secondary school education. Topics include the roles, organization, and curriculum of secondary schools viewed as social systems.

311. Understanding Young Children. (3) Staff.

A course designed for undergraduates interested in preschool children, both at home and in day-care settings, and of considerable value to prospective parents. Work in early childhood centers will be required. Child development principles and educational theories will be introduced and related.

312. Cultural Foundations of Education. *Fall and Spring (2) Mr. Garland. Co-requisite: Ed 313.*

An interdisciplinary study of the public school and its cultural context. The disciplines of anthropology, history, law, philosophy, and sociology are utilized to acquaint the prospective teacher with significant aspects of American public schools in their social setting.

313. Clinical Experiences in Early and Middle Education. *Fall and Spring (1) Staff. Co-requisite: Ed 312.*

A course designed to acquaint the elementary school concentrator with the personnel, policies, and practices of the elementary school by means of on-site experiences. The student will become aware of the schools and their operations.

314. Child Development and Learning. *Fall and Spring (3) Mr. Bass. Prerequisite: Open only to second semester sophomores, juniors, and seniors.*

A course which analyzes selected theories of human learning and development. Special emphasis is placed on current theories of learning, cognition, and social development as they apply to children and preadolescents.

319. Early Clinical Experiences in Physical Education. Spring (1) Ms. Crowe. Prerequisite: junior standing and permission of instructor.

A course designed to acquaint the physical education concentrator with the personnel, policies, and practices of elementary and secondary schools by means of on-site experiences, including weekly observations in selected public schools with scheduled conferences, special assignments, and reports.

320. Early Clinical Experiences in Secondary Education. Fall and Spring (1) Mr. Garland and Mr. Losito. Prerequisite: Ed 301.

An introduction to the public secondary school for prospective classroom teachers. Students undertake twenty hours of intensive, field-based participant-observation over a ten-week period in a local secondary school. The course is required for secondary school certification.

330. (F.A. 330) Teaching Art in Early and Middle Education. Fall and Spring (3) Staff.

A study of the development of artistic expression in children, with hands-on investigation of materials and methods best suited to elementary students. In addition, exposure to selected works of art throughout history, to help the new art teacher develop a philosophy of what art is and how it functions in our own culture. Two hours lecture; two hours studio.

400. Problems in Education. Hours and credits to be arranged. Staff. Prerequisite: Enrollment in a School of Education program.

A course designed for students who are capable of independent study under the direction of, and in consultation with, staff specialists. Students undertake study and research of educational problems of individual concern resulting from previous study or experience. Consent of instructor required.

403. Teaching Methods. Subjects to vary; one to three credits. Staff.

A course designed to allow for the acquisition of teaching skills. Emphasis is on the processes of planning, instructing, and evaluating. The focus and credit hours may be varied to meet the needs of a designated audience.

405. Teaching Social Studies in Early and Middle Education. Fall and Spring (2) Mr. Wheeler. Prerequisites: Ed 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: Ed 406, 432, 434, and 490 or 492.

An exploration of the objectives, instructional strategies, and evaluation of social studies education at the early and middle school levels. Included are experiences in the design of instructional materials for use in the classroom.

406. Teaching Science in Early and Middle Education. Fall and Spring (2) Mr. Giese. Prerequisites: Ed 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: Ed 405, 432, 434, and 490 or 492.

A course which examines the goals, objectives, instructional strategies, student and teacher behaviors, philosophies, strengths, and shortcomings of selected exemplary elementary school science curricula.

407. Teaching Mathematics in Early and Middle Education. Fall and Spring (2) Mr. Flanagan. Co-requisite: Ed 431.

Assists the beginning teacher to develop appropriate skills and knowledge for teaching mathematics at the early and middle school levels.

408. Diagnostic Teaching of Reading in Early and Middle Education. Fall and Spring (3) Mr. Beers. Prerequisite: Ed 304 or permission of instructor. Co-requisite: Ed 416.

Includes (1) techniques for evaluating reading progress, (2) examination of difficulties frequently experienced by children learning to read, (3) examination of diagnostic techniques used by classroom teachers, (4) methods to differentiate instruction to fit individual capabilities, and (5) various corrective methods for classroom use.

409. Historical Analysis of Issues in Education. Fall and Spring (3) Mr. Garland. Cross-listed as Ed 500 in Graduate Catalog.

Inquiry is conducted into a wide range of contemporary issues relevant to the professional educator. Insights into these problems are gained from a study of the historical background of the problem and the issue is analyzed in its contemporary setting.

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412. Testing and Evaluation in Secondary Education. Spring (1) Mr. Flanagan. Co-requisites: Ed 439; 469; and 440, 441, 442, 443, or 444; and 494, 495, 496, 497, or 498.

Introduces the student to basic techniques of classroom testing, in addition to an understanding of division and state-wide evaluation.

413. Ethics and Education. Fall and Spring (3) Mr. Losito. Cross-listed as Ed 503 in Graduate Catalog.

A study of moral philosophy as it applies to the role of the professional in education and the other helping professions.

416. Teaching Language Arts in Early and Middle Education. Fall and Spring (3) Mr. Beers. Prerequisite: Ed 304 or permission of the instructor. Co-requisite: Ed 408.

An examination of the processes of communicating (speaking, listening, reading and writing) along with specific methods to promote growth in communication skills in elementary and middle school children. Includes study of selected children's literature.

421. Children's Literature. Fall and Spring (3) Staff. Cross-listed as Ed 576 in Graduate Catalog.

This course provides a thorough look at the field of children's literature including the value of children's books, criteria for selecting and evaluating children's books, a survey of the categories of children's literature, and discussion of issues involving children's literature.

422. Museums: Functions and Operations. Fall (3) Staff. Cross-listed as Ed 571 in Graduate Catalog.

An introduction to the history, organization, purposes, and day-to-day operations of museums. Topics include the history of museums; problems and processes of museum management; financing museums; and the origin, acquisition, preservation, and exhibition of museum collections.

423. Literature for Adolescents. Fall (3) Mr. Gulesian. Cross-listed as Ed 577 in Graduate Catalog.

Allows participants to read and discuss books which have proven appeal to adolescents; to investigate the role of adults responsible for guiding adolescent readers; and to determine the interests, needs, and abilities of readers of middle and high school age.

424. The Teaching of Writing. (3) Mr. Gulesian. Cross-listed as Ed 574 in Graduate Catalog.

A course for secondary teachers which addresses the means by which writing enhances learning in all disciplines. Participants have opportunities to write, to study writing as a process, and to develop writing lessons and curriculum for their classroom.

425. Current Trends and Legal Issues in Special Education. Fall and Spring (3) Ms. Korinek and Mr. Prillaman. Cross-listed as Ed 548 in Graduate Catalog.

An examination of current practices and patterns in education and life styles of children and youth with learning and behavioral problems. The course deals with educational issues of a sociological and psychological nature and development of more effective educational programs.

427. Psychopathology and Emotional Disorders of Children and Adolescents. Fall and Spring (3) Ms. Korinek, Mr. Messier, and Mr. Politano. Prerequisites: Ed 302, Psych 362, or permission of instructor. Cross-listed as Ed 547 in Graduate Catalog.

Deals with emotional, psychological, genetic, neuro-biological, behavioral, and socio-cultural bases for psychopathology in children and adolescents. Consideration is given to procedures for comprehensive assessment and intervention planning in public schools. Research findings in child and adolescent psychopathology will be stressed.

428. Museum Education. Spring (3) Mr. Garland. Prerequisite: Ed 422. Cross-listed as Ed 572 in Graduate Catalog.

An in-depth study of the educator's role in a museum. Topics include interpretation in museums; docent recruitment and training; grant proposal writing; and exhibit design and installation from the educator's perspective.

430. Teaching Exceptional Children in Early and Middle Education. *Fall and Spring* (2) Mr. Patton.

Designed for students concentrating in elementary education to acquaint them with the needs of exceptional children and the continuum of special services available. Students will also develop specific strategies for teaching exceptional children in regular classroom settings.

431. Evaluating Student Performance in Early and Middle Education. *Fall and Spring* (1) Mr. Flanagan. *Co-requisite: Ed 407.*

Introduces the student to the basic techniques of student assessment, as well as school division and state-wide standardized testing.

432. Organizing and Managing the Classroom in Early and Middle Education. *Fall and Spring* (1) Mr. Wheeler. *Prerequisites: Ed 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: Ed 405, 406, 434, and 490 or 492.*

A course designed to develop the ability to manage student behavior. Students will study basic models, strategies, and techniques for solving discipline problems.

433. Using Media and Microcomputers in the Classroom *Fall and Spring* (1) Mr. Bass. *Prerequisite: Acceptance in elementary education program.*

A course which examines the role of instructional technology in supporting learning experiences. The use of the microcomputer in the classroom will receive special emphasis.

434. Integrating the Curriculum in Early and Middle Education. *Fall and Spring* (1) Mr. Giese. *Prerequisites: Ed 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: Ed 405, 406, 432, and 490 or 492.*

Provides the NK-8 preservice teacher with the skills for designing instructional units for multidisciplinary topics.

435. Teaching Physical Education K-12. *Fall* (3) Ms. Crowe. *Prerequisites: senior standing, Ed 319.*

This course is designed to develop teaching strategies and skills, K-12. Emphasis is on the processes of planning, instructing and evaluating content and methods.

439. Teaching Reading Through Content Areas. *Spring* (1) Mr. Lashinger. *Co-requisites: Ed 412; 469; and 440, 441, 442, 443, or 444; and 494, 495, 496, 497, or 498.*

An introductory course designed for preservice, secondary education majors. Emphasis will be placed on the teaching of reading through the various disciplines studied by middle and secondary school students.

440. Curriculum and Instructional Methods (Social Studies). *Spring* (4) Mr. Wheeler. *Prerequisites: Ed 301, 306, 310, 320. Co-requisites: Ed 412, 439, 461, 494.*

A basic course in instructional methodology and an introduction to secondary social studies teaching methods and materials.

441. Curriculum and Instructional Methods (English). *Spring* (4) Mr. Gulesian. *Prerequisites: Ed 301, 306, 310, 320. Co-requisites: Ed 412, 439, 461, 495.*

A basic course in instructional methodology and an introduction to secondary English teaching methods and materials.

442. Curriculum and Instructional Methods (Foreign Language). *Spring* (4) Ms. Kulick. *Prerequisites: Ed 301, 306, 310, 320. Co-requisites: Ed 412, 439, 461, 496.*

A basic course in instructional methodology and an introduction to secondary foreign language teaching methods and materials.

443. Curriculum and Instructional Methods (Mathematics). *Spring* (4) Mr. Flanagan. *Prerequisites: Ed 301, 306, 310, 320. Co-requisites: Ed 412, 439, 461, 497.*

A basic course in instructional methodology and an introduction to secondary mathematics teaching methods and materials.

444. Curriculum and Instructional Methods (Science). *Spring* (4) Mr. Giese. *Prerequisites: Ed 301, 306, 310, 320. Co-requisites: Ed 412, 439, 461, 498.*

A basic course in instructional methodology and an introduction to secondary science teaching methods and materials.

461. Teaching Exceptional Children in Secondary Education. *Spring* (1) Mr. Messier. Co-requisites: *Ed* 412; 439; and 440, 441, 442, 443, or 444; and 494, 495, 496, 497, or 498.

An introductory course about exceptional individuals designed for students in secondary education. The course will acquaint students with the needs of exceptional students and the range of special services available.

490. Supervised Teaching in Early Education. *Fall and Spring* (6) Mr. Giese and Mr. Wheeler. Prerequisites: *Ed* 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: *Ed* 405, 406, 432, 434.

A field-based experience designed to enable pre-service NK-4 teachers to become competent at the entry level in the roles, functions, and skills of classroom teachers.

491. Independent Study in Education. Hours and credits to be arranged. Staff.

492. Supervised Teaching in Middle Education. *Fall and Spring* (6) Mr. Giese and Mr. Wheeler. Prerequisites: *Ed* 304, 312, 313, 314, 407, 408, 416, 430, 431, 433. Co-requisites: *Ed* 405, 406, 432, 434.

A field-based experience designed to enable pre-service 4-8 teachers to become competent at the entry level in the roles, functions, and skills of classroom teachers.

493A. Supervised Teaching in Elementary Physical Education. *Fall* (3) Ms. Crowe. Prerequisites: *Ed* 309, 319, senior standing, and 24 credits in Education and Physical Education.

Involves daily observation and teaching in a public school system with weekly conferences, special assignments, and reports.

493B. Supervised Teaching in Secondary Physical Education. *Fall* (3) Ms. Lambert. Prerequisites: *Ed* 319, 436, and senior standing.

Involves daily observation and teaching in a public school system. Weekly conferences, special assignments, and reports will be required.

494. Supervised Secondary School Teaching (Social Studies). *Spring* (7) Mr. Wheeler. Prerequisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, 439, 461, 440.

A field-experience course designed to enable pre-service secondary teachers to become competent at the entry level in the roles, functions, and skills of classroom social studies teachers.

495. Supervised Secondary School Teaching (English). *Spring* (7) Mr. Gulesian. Prerequisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, requisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, requisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, 439, 461, 441.

A field-experience course designed to enable pre-service secondary teachers to become competent at the entry level in the roles, functions, and skills of classroom English teachers.

496. Supervised Secondary School Teaching (Foreign Language). *Spring* (7) Ms. Kulick. Prerequisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, 439, 461, 442.

A field-experience course designed to enable pre-service secondary teachers to become competent at the entry level in the roles, functions, and skills of classroom foreign language teachers.

497. Supervised Secondary School Teaching (Mathematics). *Spring* (7) Mr. Flanagan. Prerequisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, 439, 461, 443.

A field-experience course designed to enable pre-service secondary teachers to become competent at the entry level in the roles, functions, and skills of classroom mathematics teachers.

498. Supervised Secondary School Teaching (Science). *Spring* (7) Mr. Giese. Prerequisites: *Ed* 301, 306, 310, 320. Co-requisites: *Ed* 412, 439, 461, 444.

A field-experience course designed to enable pre-service secondary teachers to become competent at the entry level in the roles, functions, and skills of classroom science teachers.

The School of Marine Science/Virginia Institute of Marine Science

PROFESSORS PERKINS (Dean), LYNCH (Associate Dean), AUSTIN, BENDER, BIERI, BOON, BYRNE, CASTAGNA, CHITTENDEN, DuPAUL, GRANT, HARGIS, HUGGETT, KUO, LOESCH, MacINTYRE, MANN, MUSICK, NEILSON, NICHOLS, ROBERTS, SILBERHORN, THEBERGE, WEBB (Chancellor Professor), and WRIGHT. ASSOCIATE PROFESSORS BURRESON, DIAZ, EVANS, HAAS, HAMRICK, HERSHNER, KATOR, ORTH, RUZECKI, SMITH, WEEKS, and WETZEL. ASSISTANT PROFESSORS BARNARD, BRUBAKER, CHU, COLVOCORESSES, DESHPANDE, ELLIS, GIBBONS, GREAVES, HALE, HOBBS, KIRKLEY, LIPCIUS, LUCKENBACH, MAA, MEEHAN, NORCROSS, OLNEY, SCHAFFNER, SIERACKI, and WARINNER. INSTRUCTORS ANDERSON, KILEY, LUCY, LUKENS, MOORE, PRIEST, RHODES, and van MONTFRANS. LIBRARIAN BARRICK.

FACILITIES

Through offerings of the School of Marine Science, an unusual opportunity is afforded students of all phases of marine science (including marine fisheries science, biological, chemical, geological and physical oceanography, and certain other technical aspects including marine resource management) to take advanced undergraduate and graduate training at an active, year-round center of marine research.

The marine campus is located at Gloucester Point on the York River, an important estuary with easy access to Chesapeake Bay and the nearby Atlantic. The Institute and the School are admirably situated to conduct research and teaching in marine, estuarine, and freshwater biology, chemistry, geology, and physical oceanography and engineering. The campus of the Eastern Shore Branch Laboratory at Wachapreague, Virginia, offers access to the embayments, salt marshes, and barrier beaches of Virginia's Eastern Shore. Laboratories for mariculture and research as well as dormitory and classroom space are located at Wachapreague.

PROGRAM

The program of the School of Marine Science is primarily intended for the student who wishes to specialize in marine science at the graduate level. The degrees offered are the Master of Arts and Doctor of Philosophy in Marine Science. Majors in biological oceanography (marine biology), general oceanography (physical, chemical or geological areas), marine fisheries science, and marine resource management are available at both levels. Within these general areas, study of several specialties may be undertaken—for example, marine pollution biology, wetlands ecology, etc. The curriculum available to students working toward either degree is comprised of 68 formal courses, two problems courses, two seminar courses and two thesis courses.

Though the courses offered by the School are primarily for graduate students, advanced undergraduates (juniors and seniors) may participate. For instance, biology, chemistry and physics majors may enroll in suitable 500 level courses. An undergraduate major in chemistry, geology, physics, or physiology may work on a marine problem in his field of specialization. Consent of the chair of the student's major department is required to take problems courses in marine science.

As in most marine institutions, activities are accelerated in the summer. Qualified undergraduate students may take advanced training in invertebrate ecology, marine geology, and other subjects as scheduled. Several scientists are usually added to the research and teaching staff. In addition to the regular academic courses offered, special summer research courses in marine science may be arranged.

The faculty is heavily engaged in research as well as teaching; students have an unusual opportunity to become intimately familiar with the field. This advantage is increased by the fact that the student's entire training program is carried out on the seacoast. Time is not lost traveling from an inland campus to the sea; the sea, itself, is a constant classroom companion.

PREPARATORY STUDIES

Students who are seriously interested in marine science as a profession should consult with the dean of the school as early in their college careers as possible regarding an academic program to be followed.

In general, all science is becoming more quantitative as the twenty-first century approaches. Regardless of one's field of concentration, a solid background in mathematics through differential equations, a year of statistics, physics, chemistry and familiarity with computers is highly recommended. Students interested in biological oceanography or marine fisheries science should plan to take, in addition to the quantitative courses listed above, organic chemistry, biochemistry and a suite of contemporary biology courses.

The prospective chemical, geological, or physical oceanographer should have an undergraduate major in chemistry, physics, meteorology, geology, engineering or mathematics. It is assumed that any one of these physical science degrees includes the quantitative courses discussed above, but particularly helpful are courses in fluid mechanics, time series analysis and thermodynamics.

DESCRIPTION OF COURSES

401. Introduction to Physical Oceanography. Fall (3) Mr. Ruzecki. Prerequisites: undergraduate physics, undergraduate math.

Physical properties of seawater, descriptive oceanography, air-sea interactions, heat budget, methods and measurements, dynamics of circulation, waves and tides. *Lectures and laboratory.*

402. Introduction to Chemical Oceanography. Spring (3) Mr. Huggett and Mr. Bieri. Prerequisite: undergraduate chemistry.

Major and minor components of seawater, the concept of residence time, solution chemistry of inorganic compounds, nutrient cycling, dissolved gases, radioactive dating, geochemical cycles, biosynthesis in marine environments, organic geochemistry, anthropogenic input. Laboratory demonstration of analytical methods for organic analysis. *Three lecture hours.*

403. Introduction to Biological Oceanography. Fall (3) Mr. Burreson.

Introduction to biological oceanographic processes emphasizing primary production and nutrient cycling; plankton, nekton and benthic processes, including feeding and reproduction strategies and animal/sediment relations; population regulation; estuaries as ecosystems. *Lectures and laboratory.*

404. Introduction to Geological Oceanography. Spring (3) Mr. Boon, Mr. Hobbs, and Mr. Wright.

Concepts of marine geology; coastal processes, seafloor spreading and plate tectonics, sediments and sedimentation, shelf and canyon development. *Lectures and field trips.*

406. Introduction to Marine Science. Fall (3) Mr. Loesch.

A general introduction to marine science, including biological, chemical, geological, and physical oceanography. Three lecture hours. Offered at night at the Williamsburg campus. Not open to graduate students in the School of Marine Science.

407. Statistics for Marine Scientists I. Fall (3) Mr. Diaz.

Applications of statistical methods to analysis of biological and physical data. Binomial and chi-square distributions, normal distributions. Hypothesis testing, introduction to analysis of variance and regression analysis.

408. Introduction to Computers for Marine Scientists. Fall (1) Mr. Anderson.

An introduction to the use of computers in scientific research. Topics covered include the creation, editing and organization of files into directories, and an introduction to software systems for data analysis (SPSS, SAS), spatial analysis (Surface II), word processing (Word Marc), and graphics (SPSS, SAS, and BAYPLOT). Class assignments will be carried out on the School's PRIME time-sharing minicomputer system; however, the role of microcomputers in marine research also will be discussed. One lecture hour and two laboratory hours weekly.

409. Program Design and Data Structures Using Pascal. Spring (2) Mr. Lukens.

Structured programming techniques are presented using the Pascal programming language. Elementary data structures are presented with attention to forms which are useful in scientific programming. Practical applications are stressed with emphasis on gra-

phics in the latter portion of the course. The linkage of system and user-written libraries to Pascal programs is covered. Class assignments are carried out on the VIMS PRIME 9955.

413. Coastal Botany. *Fall* (3) Mr. Silberhorn.

A general survey of maritime vascular plant communities. Marshes, swamps, beaches, dunes, maritime forests and submerged aquatic communities of the coastal region. *Field trips, laboratory and lectures.*

414. Introduction to Immunology of Marine Organisms. *Spring* (3) Ms. Weeks, Mr. Warinner.

A course dealing with fundamental concepts in immune responses. The development of cellular and humoral immune responses and their regulation are considered in relation to infectious disease, allergy, tissue transplantation, neoplasia, autoimmune disease and immunodeficiency. Also considered are the properties of antigens and immunoglobulins, immunologic specificity and methods for monitoring immune responses. Acquired and innate immunity and structure and function of the lymphoreticular system of fish will be considered in detail.

419. Computer Applications in Marine Science. *As required* (1) Staff.

Courses designed primarily for students who require special computer language programs for analysis of their research data. Following instruction in basics or programming language, each student will develop, with guidance, one or more computer programs pertinent to his or her thesis research.

497. Problems in Marine Science. *Fall, Spring and Summer* (1-4) Staff.

Supervised projects selected to suit the need of the graduate student. Projects are chosen in consultation with the student's supervising professor and the instructor. Credit hours depend upon the difficulty of the project and must be arranged with the instructor in advance of registration.

498. Special Topics in Marine Science. *Fall, Spring and Summer* (1-3) Staff.

This is the avenue through which subjects not covered in other formal courses are offered.

These courses are offered on an occasional basis as demand warrants. Subjects will be announced prior to registration. Hours to be arranged.

GRADUATE PROGRAM

The School of Marine Science offers the degrees of Master of Arts and Doctor of Philosophy. For graduate admission and degree requirements, and for a full description of graduate courses in marine science, write for a graduate catalog to Dean of the School of Marine Science, Gloucester Point, Virginia 23062.

VI. MISCELLANEOUS INFORMATION

ENROLLMENT OF THE COLLEGE

SESSION 1987-88

Classification	Men	Women	Total
Freshman	618	697	1315
Sophomore	701	739	1440
Junior	550	618	1168
Senior	562	630	1192
Law	322	209	531
Graduate	586	581	1167
Unclassified	117	262	379
Total	3456	3736	7192

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

SESSION 1987-88

Alabama	11	Bahamas	1
Alaska	1	Bangladesh	1
Arizona	8	Barbados	2
Arkansas	6	Belgium	4
California	65	Bermuda	1
Colorado	31	Brazil	6
Connecticut	103	Canada	12
Delaware	51	Republic of China	5
District of Columbia	27	Cameroon	1
Florida	81	Chile	2
Georgia	62	Costa Rica	1
Hawaii	3	Cyprus	3
Idaho	2	Dominican Republic	1
Illinois	47	Ecuador	1
Indiana	13	Egypt	1
Iowa	10	El Salvador	3
Kansas	4	England	6
Kentucky	15	Ethiopia	1
Louisiana	13	France	7
Maine	19	East Germany	1
Maryland	214	West Germany	15
Massachusetts	115	Ghana	1
Michigan	28	Greece	5
Minnesota	10	Guatemala	2
Mississippi	2	Hong Kong	3
Missouri	18	Hungary	1
Nebraska	3	India	13
Nevada	1	Iran	8
New Hampshire	19	Israel	1
New Jersey	310	Italy	1
New Mexico	7	Jamaica	4
New York	252	Japan	3
North Carolina	43	Malaysia	2
North Dakota	1	Mexico	1
Ohio	71	Netherlands	5
Oklahoma	6	Netherlands Antilles	3
Oregon	5	Oman	1
Pennsylvania	329	Peoples Republic of China	15
Rhode Island	7	Philippines	3
South Carolina	17	South Africa	1
Tennessee	33	South Korea	22
Texas	40	South Vietnam	3
Utah	1	Spain	1
Vermont	8	Sweden	5
Virginia	4825	Switzerland	1
Washington	7	Thailand	1
West Virginia	21	Turkey	2
Wisconsin	13	United Kingdom	17
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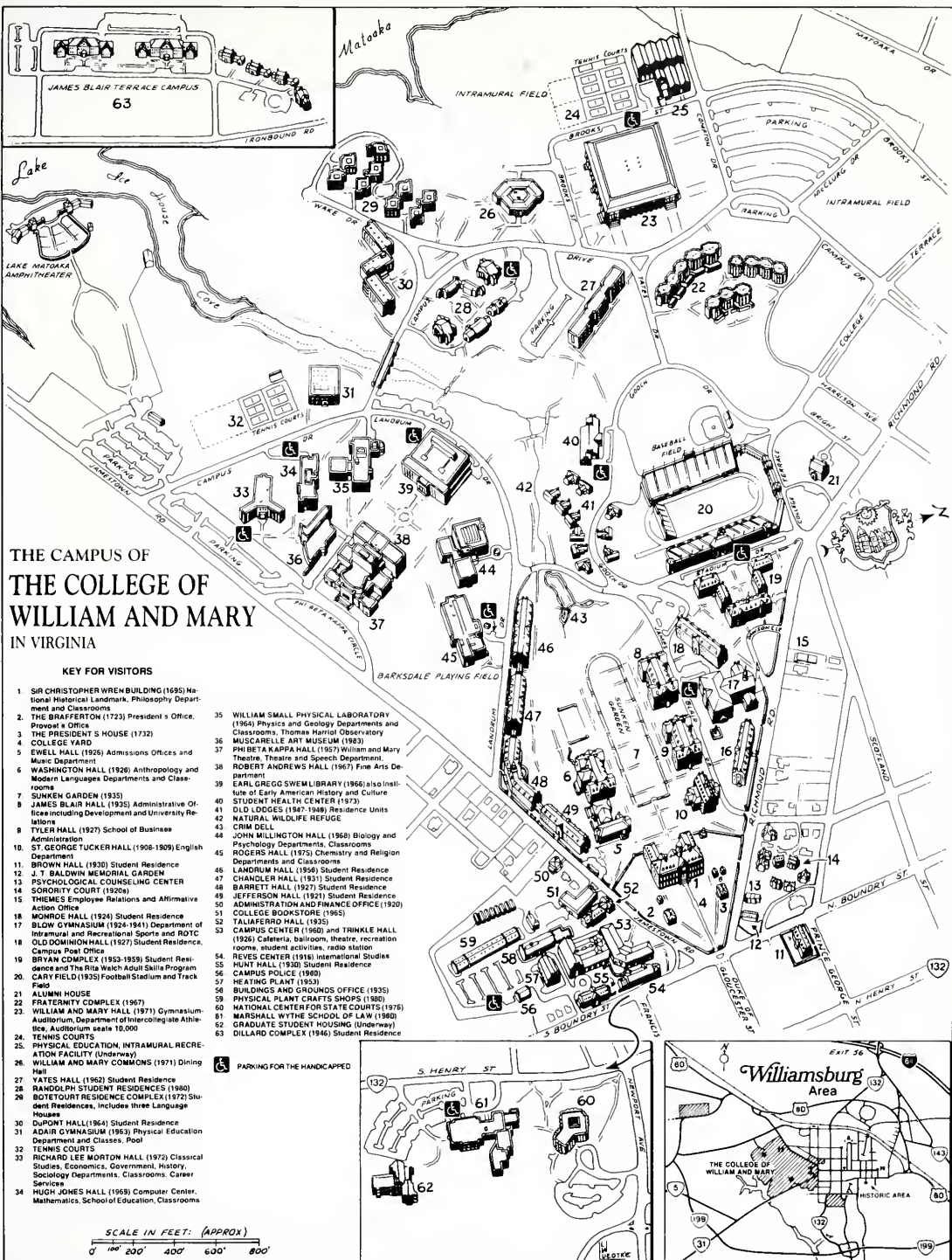
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